

Hitchcock's
6352
44
**Machine Tool
Blue Book**

FEBRUARY, 1932

TWENTY-SEVENTH YEAR

LOWER YOUR BLADE COST

MARVEL HACK SAW BLADES



FOR LONG WEAR.



MARVEL HIGH SPEED EDGE HACK SAW BLADES are GUARANTEED not to break in two in any machine—not even by accident. Marvel blades with the genuine high speed steel cutting edge electrically welded to a tough special alloy back outlast ordinary blades from six to ten times, and with faster, cleaner cuts, and fewer blade changes. Constant re-orders from users everywhere is the best proof of the wonderful results obtained with Marvel Blades. Try them. You'll like them.

ARMSTRONG-BLUM MFG. CO.

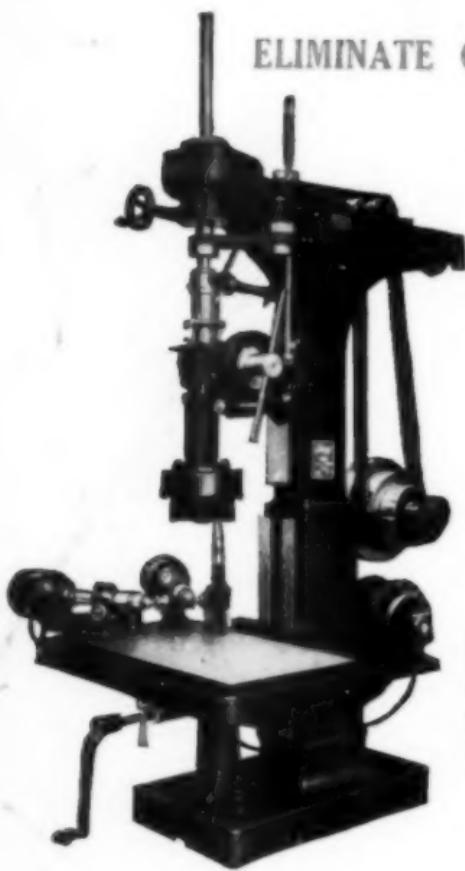
341 N. Francisco Ave., Chicago, Ill.

PUBLISHED AT 508 So. DEARBORN ST. CHICAGO

NOW IS THE TIME TO PLAN FOR THE FUTURE

A lot of things can be done to effect economies

ELIMINATE OLD EQUIPMENT



NEWER
AND BETTER
TOOLS
SAVE MUCH
AND
BRING YOU
PROFITS

Let us show you
how you can get
two holes at for-
mer cost of one.

"EVERYTHING IN GOOD DRILLING"

THE AVEY DRILLING MACHINE CO.
CINCINNATI, OHIO

Hitchcock's
**Machine Tool
Blue Book**

**Selected
Circulation**

**25,500
Monthly**

FEBRUARY, 1932

TWENTY-SEVENTH YEAR

Yes, Business is Convalescing

Since the first of the year there has been a more hopeful feeling among manufacturers of metal-working machinery, based upon inquiries, sales and a better outlook.

Automotive manufacturers, with new models and lower prices, are making strenuous bids for business, with excellent prospects of success.

The replacement needs of railroads are tremendous. With rate and wage adjustments which will permit profitable operation, they will play a big part in business revival.

Bank failures are less numerous. The National Credit Corporation is rendering assistance to hundreds of banks throughout the country.

The two billion dollar Reconstruction Finance Corporation, with Charles G. Dawes at its head, will afford relief to banks, railroads, agricultural associations and other key institutions, which will materially stimulate business of all kinds the country over.

Yes, we are on our upward way. Let us all boost, and we may be surprised at the results.

Published By

Hitchcock Publishing Co.
508 S. Dearborn St., **Chicago, Ill.**

Consult the Classified Finding Index for your requirements

FOOTBURT



A Single Spindle Footbur Sipp Sensitive Drill

Made in three
sizes of single
and multiple
spindle models

More holes with this machine

Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

Write for No. 650 Folders

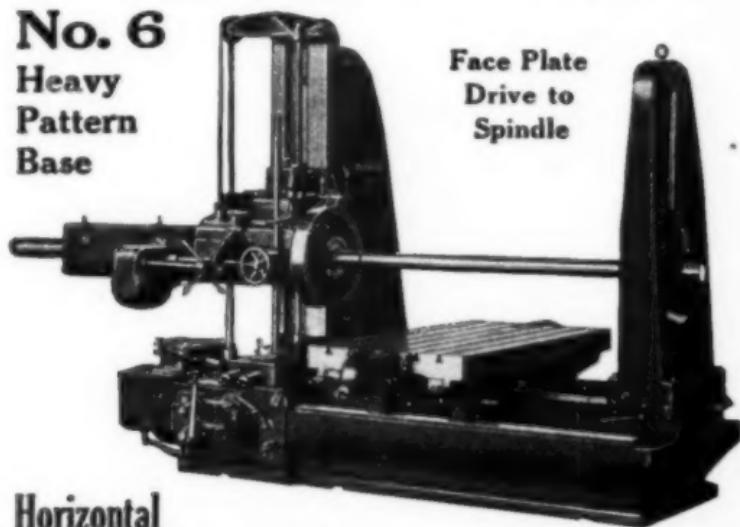
The Foote-Burt Company, Cleveland, O.

FOOTBURT

The New Improved DEFIANCE

No. 6

Heavy
Pattern
Base



Horizontal Boring, Milling, Drilling and Tapping Machine

The Defiance Line of Horizontal Boring Mills embodies many special features including independent rapid traverse to head and platen in all directions, moving 84" per minute; thoroughly enclosed head; forced feed lubrication; centralized control; unit construction of head, feed and speed boxes, and many more efficient aids to production. Simplicity, great strength and ample power enable you to handle a wide range of work with profit.

Write for the descriptive folder, or for the complete Catalog of "The Defiance Line" of Cylinder Boring Machines, Heavy Service Drilling Machines, Rail Drills, Horizontal and Vertical Multiple Drilling Machines, Multiple Tapping Machines and Valve Grinding Machines.

The Defiance Machine Works
Defiance, Ohio

Designers and Builders of Precision-Production Machine Tools and
Special Woodworking Machinery

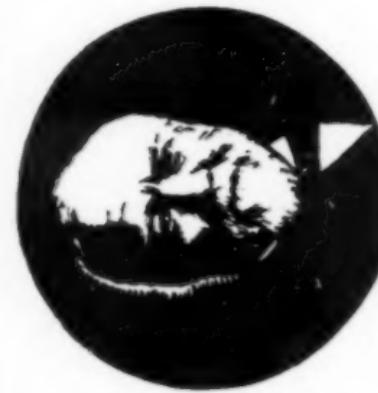
THEIR Confidence was Justified



**WHEN 169 RAILROADS FAILED IN 1893,
JOHN H. PATTERSON SAID:**

"The year has been unparalleled in the history of the United States. Great questions were to be solved, every industry was stagnant. Some closed down, some lost courage, while a few pushed ahead and worked harder than ever with confidence in the future. We did not let the hard times interfere with our work. When times got duller, we advertised the more and worked the harder."

4



**WHEN PIG IRON DROPPED 50% IN
1907, ANDREW CARNEGIE DECLARED:**

"This panic will soon run its course and pass away leaving no impediment to the return, in due season, of another period of wholesale, some, because needed, expansion of our resources. We have had the greatest expansion of modern times. Reaction had to come—will prove healthful. Nothing can stay the rapid progress of the Republic. She is all right."



**WHEN DEEP, DARK GLOOM RULED IN 1921
THOMAS FORTUNE RYAN SAID:**

"Our merchants have been buying only what they can sell quickly for cash. The consumer has had to listen to so much pessimistic talk that he buys only what is absolutely necessary. People everywhere have been scared. They are getting over that. Our people are the greatest consumers of food and manufactured articles in the world in normal times—and normal times are coming back."

AMERICA CAME THROUGH!

In 1893 stark ruin stalked through the land. 467 banks failed in a few months. Mills, furnaces and factories shut down everywhere. Bankruptcy was on every hand. America had twice as many unemployed per thousand population as she has today. But she put them all back to work.

In 1907 panic broke loose. The production of pig iron dropped 50% in less than a year. All but the strongest men lost heart—"We are ruined," they declared, "recovery cannot come in our time." Yet in two years prosperity had returned.

In 1921, when many honest and thoughtful people were predicting worse conditions, the country was already beginning to climb to the greatest era of prosperity it had ever experienced.

History tells how America has fought and won 19 major depressions. Good times always follow hard times, as surely as day follows night. Prosperity always comes back. It is coming back this time, too.

Above all things, let us have faith.

**America Has Beaten 19 Major Depressions
She will Beat this one**

THE NATIONAL PUBLISHERS ASSOCIATION

"As the most nearly self-contained nation, we have within our own boundaries the elemental factors for recovery."

(From the Recommendations of the Committee on Unemployment Plans and Suggestions of the President's Organization on Unemployment Relief)

HERE IT IS!



—the "last word" in FRICTION CLUTCHES

Machine designers, owners and operators are as one in their praise of the Conway Clutch. The designer, because he knows the Conway is going to keep his product at top performance, for life. The owner, because it relieves him of clutch worry and expense. The operator, because of its ready response to his touch on the lever bar.

EASY ENGAGEMENT
INSTANT RELEASE
DRAGFREE IDLING
ABUNDANCE OF POWER

—these are the four big Conway features. Ask for Catalog P-20—it has the full details. And our new Bulletin E-8, on Conway Expansion Clutches is also ready.

THE CONWAY CLUTCH CO.
1541 Queen City Ave., :: Cincinnati, Ohio

"*The Conway Disc is a splendid Clutch*"
Patented U. S. A. and Canada.

Taylor & Fenn Belt Driven
No. 12 Spring Press



**UNIFORM BLOW
SPRING PRESSES**

**Are made in
three sizes,
with either
single or
double action**

Our No. 12 Belt Driven Spring Press, illustrated above, has a stroke of $3\frac{1}{4}$ inches. The foot treadle operates a safety clutch attached to the flywheel, which automatically stops the machine after each stroke regardless of whether the treadle is released or held down by the operator. The clutch can be adjusted for a continuous stroke if desired.

Descriptive circular gladly sent upon request

The Taylor & Fenn Co.
Hartford, Conn., U. S. A.

The Cincinnati TRADE MARK HIGH SPEED CUT-OFF MACHINE



Speedy Cutting—
Straight or Angle
Up to 45°

The CINCINNATI quickly and easily cuts steel alloys, brass, aluminum, copper, fibrous materials, etc., of any size or shape up to 2½" inclusive. Uses 12" or 14" diameter abrasive wheels which operate at a peripheral speed of 16,000 S. F. M. Fully guarded—combines speed with safety.

Interesting Figures

A chart, showing the remarkably short time necessary to cut various materials, as well as the average number of cuts per wheel, will be sent upon your request. Send for it today and compare it with your own cutting figures.

Drop us a line and we'll forward a bulletin giving complete information

BUILDERS OF
*Ball Bearing
Electric Drills
Screw Drivers
Nut Setters
Tappers
Valve Grinders
Tool Post Grinders
Floor Buffers
Bench and
Floor Grinders*

THE CINCINNATI
ELECTRICAL TOOL CO.
2700 Madison Road, Cincinnati, O.

"A SECOND OR TWO—AND THE CUT IS THROUGH"

THE STANDARD GRINDERS



PEDESTAL GRINDERS

$\frac{1}{4}$ H. P. up to and including
10 H. P. size.

General Electric Motors.

SKF Ball Bearings.

Nickel Steel Shafts.

Also Bench Types.

Buffing and Polishing Machines — various sizes.

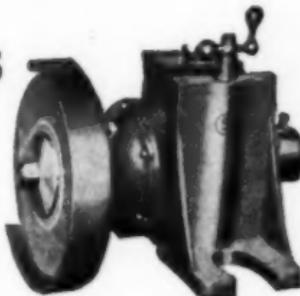
Also
self-contained motor belt driven
overhanging spindle buffers.

ANGLE PLATE or PARALLEL GRINDERS

$\frac{1}{4}$, $\frac{1}{2}$, 1, 2, 3, 5 and $7\frac{1}{2}$ H. P.

Tool Post or Center
Grinders.

Combination
Internal and External
Grinders.



Write for complete catalog

The Standard Electrical Tool Co.
1952 West 8th St., Cincinnati, Ohio

Standardize on Standard Tools

Wittek Universal Die Sawing and Filing Machine

has many new and improved features



This machine has three speeds with adjustable stroke from $1\frac{3}{4}''$ to $5\frac{1}{2}''$. Universal saw and file holders hold any size saw or file. It has roller saw guides above and under the table to guide the saw for accurate sawing. The table tilts 15 degree angle in any direction. Has detachable screw feed, and many other features.

**Made in Bench or Floor Models, with Motor
or Belt Drive. Price \$285.00 and up.**

Ask your Machinery Dealer or write us for Bulletin FH.

WITTEK MANUFACTURING CO.
Dept. H. 4307 West 24th Place, Chicago, Ill.

Vickers Hydraulic MULTI-PURPOSE JACK



Model TB-20

**\$36. LIST
20 Ton Cap.**

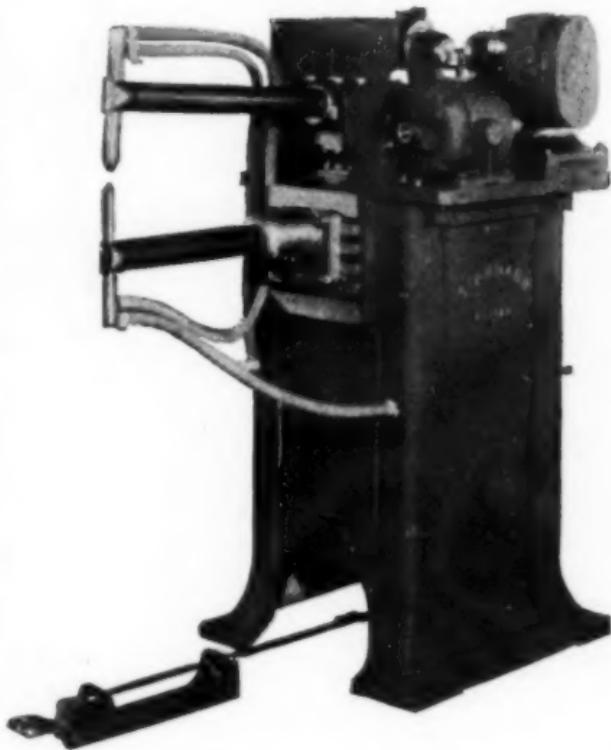
The finest industrial jack built, at a low price possible because of Vickers' *simplified* design. Only seven moving parts including valves—all totally enclosed. No leather packings, no oil, no stuffing

box on ram—does not leak nor settle under load. Micro control of release valve permits slow lowering of load—no "dropping." Speedy operation in any weather. Model TB-20 has a "low" height of 10 $\frac{3}{8}$ ", extension head adjustment to 15 $\frac{3}{8}$ " with 6 $\frac{1}{2}$ " ram travel.

Write for literature today on Vickers' complete line of patented "direct lift" hydraulic jacks, including list prices and discounts. Other models and types from 3 to 15 tons capacity. Get the facts.

VICKERS MFG. CO., M. & T. Bldg.
Buffalo, N. Y.

"Standard" Automatic



A fully automatic, top drive spot welder. Built in 20, 25 and 33 KVA capacities. Five speed changes from 45 to 140 strokes per minute. Positively the smoothest operating spot welder on the market. **Write for prices.**

The Lenney Machine & Manufacturing Co.
Warren, Ohio

Buy for your present needs



**—add extra units
when you need them**

The type of sections you produce or need right now may require only a small roll-forming machine with few forming rolls. Yet future work may require the facilities of a larger machine.

McKinney design makes it possible for you to provide for both without costly duplication of equipment. Due to McKinney unit-built construction, you can buy as small a machine as will meet present needs, and yet meet most future requirements simply by adding extra double-spindle units to the base of the original machine.

This optional feature, together with McKinney sliding housing design which permits roller dies to be set up either between housings or on exposed ends of spindles, give McKinney Roll-Forming Machines a range of adaptability not obtainable with any other equipment.

Write for new bulletin

The McKinney Tool & Mfg. Co.

1684 Arabella Road,

Cleveland, Ohio

NEW "PROCUNIER"

TAPPING
ATTACHMENT

1/4" Capacity



Taps
perfect
holes
at 3000
r.p.m.?

Also other
styles and
sizes

Want a free trial?

PROCUNIER SAFETY CHUCK CO.
14 S. Clinton St., Chicago, Ill.

EDGEMONT TYPE SF DISC CLUTCH

FEATURES:



- Hardened steel cam, rollers and pins.
- One hand adjustment (no tools required).
- Large liner area.
- Quick release at all speeds.
- No sliding of levers under heavy pressure.
- Simple, fool-proof design.
- Easy, quiet operation.

The Edgemont "Type SF" Clutch is especially suitable for machine application due to its correct design and efficient operation.

Blue-prints and complete information sent on request. Write now for it.

"CAREFREE SERVICE AT ANY SPEED!"

The Edgemont Machine Co.
2900 Home Ave., Dayton, Ohio

Two-Spindle Vertical Attachment for the **SUPERIOR** Hand Miller



Adapted to perform two operations on the same piece, or a different operation on two different pieces.

This two-spindle vertical milling attachment is carried on the main sliding head, and the vertical spindles are mounted on Timken Roller Bearings. The spindles are provided with spring chucks and draw-in bolts so that straight shank end mills can be used.

Accuracy, Versatility Facilitate Production

These attachments are running continuously, day and night, in many plants and are performing successfully the operations on a variety of pieces. The very best of materials and workmanship insures *long life* together with *perfect alignment* and *ease of operation*.

Write Us Today for Descriptive Literature and Price

We are also Designers and Manufacturers of Special Machinery, Tools, Dies, etc., as well as of Experimental and Model Work.

Superior Machine & Engineering Co.

1920 Ferry Park,

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2-2

Detroit, Mich.

MARKING DEVICES

RUBBER STAMPS



STEEL STAMPS



BURNING
BRANDS



ETCHED METAL
NAME PLATES

BRASS
LABELS

THE SCHWERDTLE STAMP CO.
BRIDGEPORT, CONN.

"ALNOR" Pyrometers

for the
Hardening
Furnace

MODEL 223

Inexpensive, yet accurate and durable, the ALNOR Pyrometer is used by large and small shops everywhere for heat-treating work. Because of its low first cost and compact size it is also very popular for soft metal melting, galvanizing, die casting, japanning, enameling, measuring flue gas temperatures and many other purposes.



\$35
COMPLETE

Write for descriptive folder

Illinois Testing Laboratories, Inc.
150 W. Austin Ave., Chicago, Ill.

KRW "Bench Type" ARBOR PRESS



No. 37D

\$28.50

F.O.B. FACTORY
ARCADE, N. Y.

Shipping Weight
140 lbs.

Write for special
circular, just off
the press, cover-
ing KRW Hy-
draulic Arbor
Presses, air and
oil operated.

Every shop needs one of these presses to handle hundreds of jobs now done with vises and sledge hammers. They soon pay for themselves in time and labor saved.

The KRW "Bench Type" Arbor Press is oversize in every particular. The throat is extra deep, taking work up to 13 inches in diameter. The ram is 1½x1½x17 inches. Largest arbor is 1½ inches. The height is 22 inches. Can be conveniently mounted on end of work bench, as it takes up a space of only 8x20 inches.

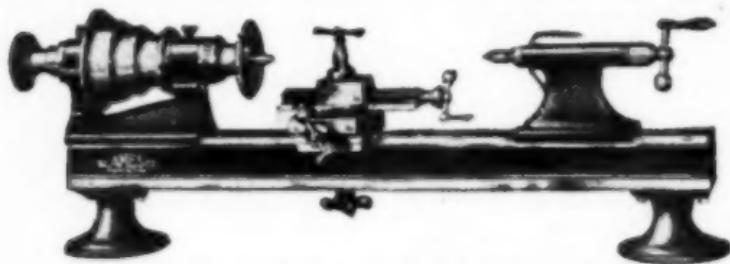
K. R. WILSON

10-18 Lock Street, Buffalo, N. Y., U.S.A.

EXPORT DEPT.
126 Liberty St., New York

WEST COAST BRANCH
647 Mateo St., Los Angeles

AMES Bench Lathes



For Turning—Drilling—Grinding—Milling—
Threading—Filing—Polishing—in the tool
room or in production.

Send for complete information

B. C. Ames Co., Waltham, Mass.

Detroit Branch: 902 Stephenson Bldg.



ATLAS ARBOR PRESSES

For all forcing operations
No. 55 for—

**Power
Speed
Versatility**

with a ram travel of 27 feet per minute this press develops 10 tons pressure.

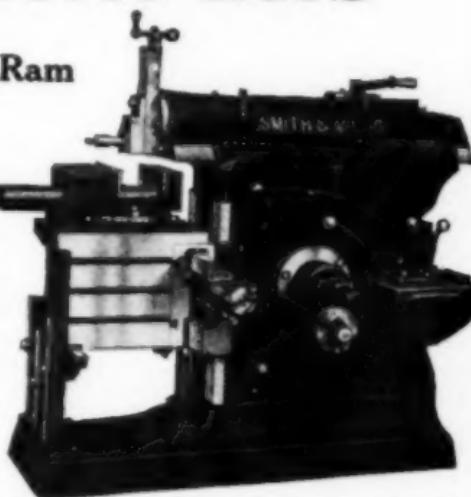
*Write for descriptive Bulletin on this
and other Atlas Presses.*

**ATLAS PRESS CO.
KALAMAZOO, MICH.**

SHAPERS

"V" Type Ram

12^o, 14^o, 16^o,
20^o, 25^o Gear
Box single pul-
ley or motor
drive, also 16^o,
20^o, 25^o B. G.
cone drive with
belt shifter. 32^o
B. G. all geared
single pulley or
motor drive, all
sizes crank type.



The Smith & Mills Co., Cincinnati, O., U.S.A.

Improved Thompson Universal Grinder

Self-contained and motor driven,
this standard Grinder combines
efficient means for the rapid and
accurate production of every grind-
ing operation required in a ma-
chine shop.

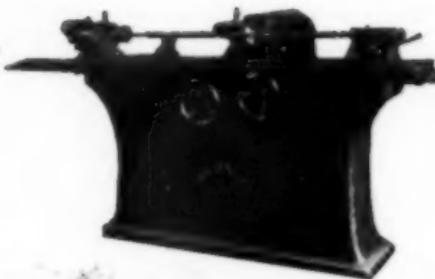
*All standard mach nes
equipped with auxiliary
independent coarse
cross feed for surface
grinding.*

Capacity 12^ox36^o

**The Thompson
Grinder Co.**

1534 West Main St.,
SPRINGFIELD, OHIO





**LOWER
Costs—
BETTER
Work—
If You Use
The**

COLONIAL Broach Sharpener

Broach life is often increased 50% by using the COLONIAL because it is specifically designed for grinding the teeth and hard-to-get-at undercut. You get the equivalent of a new tool with each grinding. And actual production costs are reduced by *two-thirds* with a time saving approximately the same! It will pay you well to investigate the COLONIAL Broach Sharpener.

Write Today for Details Including the Low Price

COLONIAL BROACH COMPANY
147 Jos. Campau Ave., Detroit, Mich.

USE "D. & W." DEMAGNETIZERS!



Of unique construction, they are simple, dependable

A rigid continuous "U" shaped core, made of the highest grade laminated electrical steel, is energized by two stationary coils, thru which alternating current is passed. Construction is similar for d. c. machine, and in addition containing a small converter.

Have you any special problems in connection with the use of Magnetic Chucks? We will gladly investigate and report on same, or design a special chuck for your particular needs. Write us today.



J. & H. Electric Co., 200 Richmond St., Providence, R. I.

PEERLESS

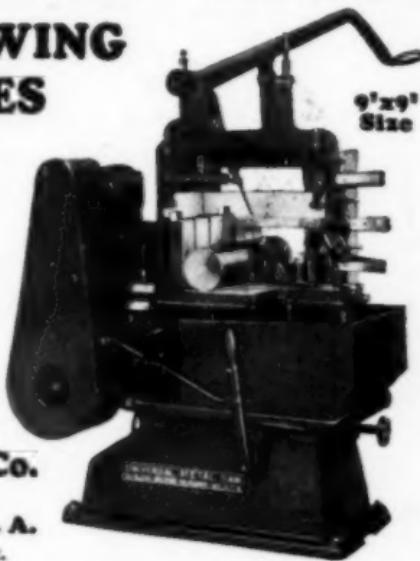
UNIVERSAL HIGH SPEED

METAL SAWING MACHINES

Fast, accurate production Metal Sawing Machines for machine steels, tool steels, stainless steels and high speed steels as well as all other classes of cut-off work. Made in three sizes— $6^{\prime \prime} \times 6^{\prime \prime}$, $9^{\prime \prime} \times 9^{\prime \prime}$, $13^{\prime \prime} \times 13^{\prime \prime}$. Three Speeds. Belt or motor drive. Arrangements for motor, standard equipment.

"If it's a cut-off proposition—
it's for PEERLESS"

Peerless Machine Co.
1619 Racine St.,
RACINE, WIS., U. S. A.
New York Office: 15 Warren St.



SPEED SPOT WELDERS

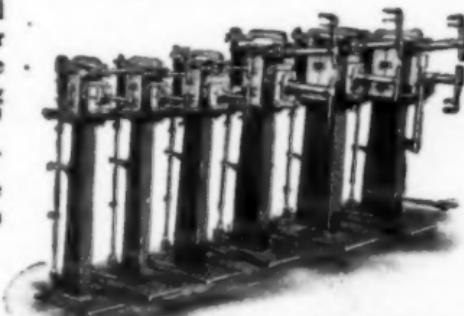
Made foot-operated and variable speed automatic motor drive, no change gears, for welding from .0005 to $\frac{5}{8}^{\prime \prime}$ combined thickness.

Welders for Fine Work Priced As Low As

\$55.00

Submit Your Problems

OVER 20,000 IN USE



$\frac{1}{2}$ to 35 K. V. A.

EISLER ELECTRIC

763 So. 13th Street,

Distributor and Dealer Connections Desired

NEWARK, N. J.

A NEW BURKE TAPPING MACHINE



with
Exceptional
Power

The new No. 606 Burke Tapping Machine belies its size in its remarkable power and speed. Handling $\frac{1}{8}$ " taps in cast-iron or $\frac{1}{16}$ " taps in steel, it is unusually useful. Compactly built, it is portable and can be placed in any convenient place.

Write for
circulars
and prices.

The Burke Machine Tool Co., 297 E. 18th St.,
Conneaut, Ohio

ARMSTRONG

TRADE MARK REG'D IN U.S. PAT. OFFICE

Engineers' Wrenches



Drop-forged from special high-carbon steel, Armstrong Engineers' Wrenches help good workmen to do work. They're sturdy, accurate and well balanced; smoothly burnished, hardened and finished in black enamel with heads ground bright. Supplied singly or in sets. Write for circular.

ARMSTRONG BROS. TOOL CO.

"The Tool Holder People"

308 N. Francisco Ave.,

Chicago, Ill.

London Branch: Armstrong Bros. Tool Co. Ltd.,
35 Upper Thames St., London, E. C. 4, England



Townsend Centrifugal Multi-Blow Riveters

THE ONLY MACHINE THAT
IMITATES HAND RIVETING IN
EVERY WAY.

NUMEROUS TYPES FOR ALL
KINDS OF WORK.

Round and Flat heads, hollow and cheek rivets
from .008" to $\frac{5}{16}$ " without distortion or breaking
of fragile material. In places inaccessible by any
other method.

H. P. Townsend Mfg. Co.
Hartford, Conn.

Foreign Representatives:

G. H. Alexander Machinery Ltd., Birmingham, England
Andrews & George Co., Tokyo, Japan
Fenwick Freres, Paris, France

The "JARVIS" Bench Band Saw

For Metal Cutting Operations



The "Jarvis" Bench Band Saw cuts
metals—straight, curved or bevel. It
is motor driven, operates from a
lamp socket and is vibrationless.
Ball bearing disc wheels, worm drive.

12" size cuts up to $1\frac{1}{2}$ " cold rolled
steel. 16" size cuts up to 2" cold
steel. Also made for cutting soft
metals, Bakelite fibre, transite, wood, etc.

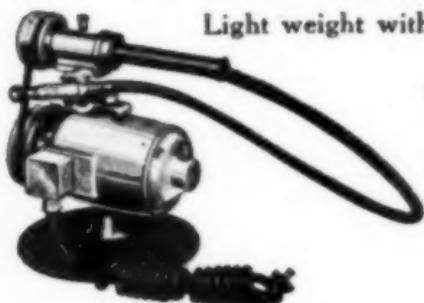
Details gladly sent upon request.

BENJ. E. JARVIS, Inc.
NEWARK, NEW JERSEY

Walls Sales Corp., Agents
96 Warren St., New York City

Mall
TRADE MARK

HEAVY DUTY—HIGH SPEED Die Sinking Machines



Light weight with ABUNDANT POWER
Use

THE MALL METHOD
for

Cleaning— Scraping—
Finishing— Sawing—
Drilling— Filing—

Speed ranges 300 to
21,000 r. p. m.

Detailed Catalog on Request

Mall Tool Company, 7740 So. Chicago Ave.,
Chicago, Illinois

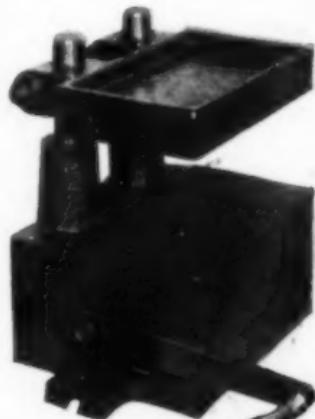
ANNOUNCING “SURE CLAMP”

This New Line of Quality
Drill Fixtures Sells for

50 to 70% LESS
than any on the market

They embrace many exclusive
improvements, and carry an
UNCONDITIONAL GUARANTEE.

Write today for full details



$6^{\prime \prime} \times 10^{\prime \prime}$ Capacity

\$37.50

A. H. PEARSON, 7 East Grand Avenue,
DETROIT, MICHIGAN

A Few Desirable Territories Open—Write Us



Punch MORE Holes with **T. H. L. PUNCHES**

T. H. L. Punches will produce more than the average number of holes, for they are made of the highest grade, dependable tool steel and are hardened and tempered—right. Our experience of nearly 40 years in making of punches assures you satisfactory, continuous and profitable production.

A Trial Order

will convince you. We carry large stocks of regular sizes for immediate delivery—special sizes quickly made.

Write for a copy of our Catalog

T. H. Lewthwaite Machine Co.
311 East 47th St., (Est. 1890) New York City

RING WHEEL **GRINDER**

for roughing and finishing

FLAT SURFACES QUICKLY **AT A LOW INVESTMENT**

Unobstructed Table
for Fixture Fastening

Two Sizes

Work Bound
to be True

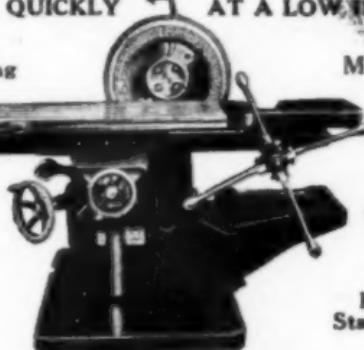
Right Finish
in Right Time

Rigid as a
Milling Machine

High Grade

For
Wet Grinding

Bracket for
Standard Motors



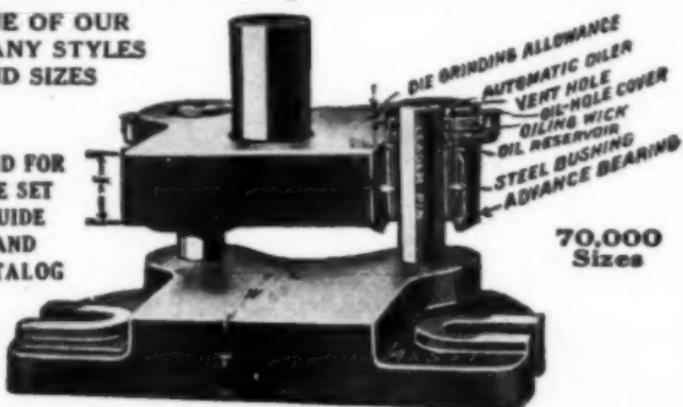
Pulley Grinder and Grinder Chuck Circulars too

**THE GRAHAM MFG. CO., 70 Willard Ave.
PROVIDENCE, R. I.**

Automatically Oiled Die Sets

ONE OF OUR
MANY STYLES
AND SIZES

SEND FOR
DIE SET
GUIDE
AND
CATALOG



E. A. BAUMBACH MFG. CO.
GENERAL OFFICE AND WORKS

1810 South Kilbourn Ave., CHICAGO, ILLINOIS

Sales and Engineering Offices—Principal Cities U. S. A. and Canada

A NEW CAD September 1, 1930



The CAD U
BIG BRUTE Machine Shop Clamp

Made for your big boring
mills and planers that re-
quire $\frac{7}{8}$ "—1"— $1\frac{1}{8}$ " bolts.

CAST STEEL
Good For
10 to 15 Tons Safe Load
8"—10"—12"—16" Long

Ask for CAD Circular A-51

STANDARD SHOP EQUIPMENT CO., INC.
Set-up appliances for machine tools
8135 Tinicum Ave., Philadelphia, Pa.

Sheldon Arbor Presses



Sheldon Milling Machine
Vises.

Sheldon Drill Press and
Shaper Vises.

Sheldon 90° Angle Plates.

*Write for illustrated
price list.*

Sheldon Machine Company

Railway Exchange Bldg.

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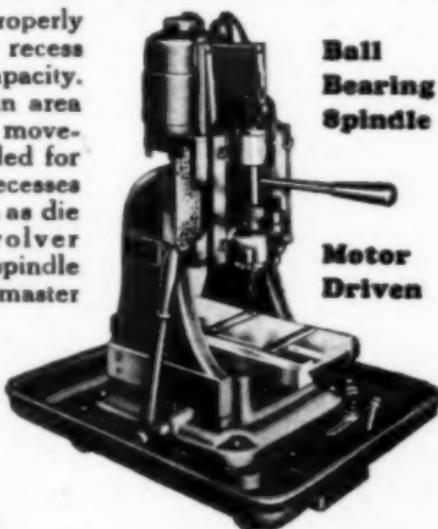
Chicago, Ill.

Bench Profiling Machine with Built-In Pump and Oil Reservoir in Base

RIGIDLY built and properly balanced for all recess work up to its capacity. Cutter spindle covers an area of $1\frac{1}{4} \times 4"$, has vertical movement of $1\frac{1}{4}$. Unexcelled for producing duplicate recesses in blocks or plates such as die blanks, gun and revolver plates, etc. Cutter spindle furnished for cutting master plates.

Write for Complete Details

**THE WADE
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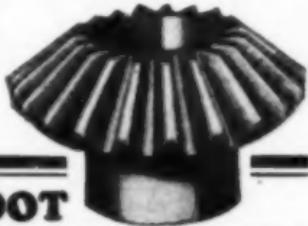
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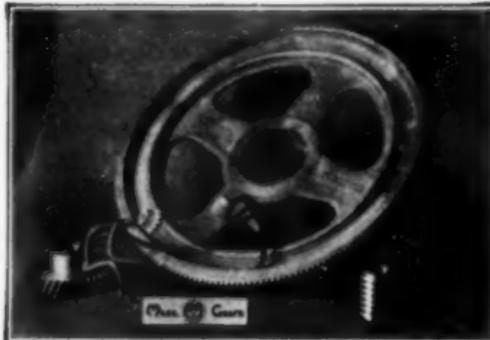
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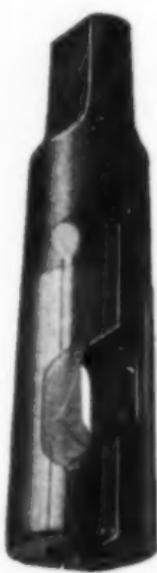


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It will reach into otherwise inaccessible places, pick up any bulky, unwieldy object weighing up to 6000 lbs. with ease, and transport it from one end of the shop to the other. *One man* can operate it—no need to call 6 to 10 men from their work to risk torn ligaments. Safety Friction Load Brake can be added to new or old 'Cantons' at small extra cost.

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One rivet per second.
Heads highly polished.
No hammer or tool marks.
The work is always uniform.
As tight or loose as desired.
Works in hard-to-get-at places.
It's easily operated by cheap help.
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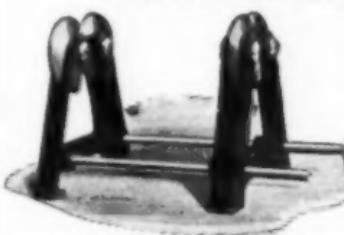
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It requires no leveling or adjustment, no centers; its hardened spindles are not dented by use.

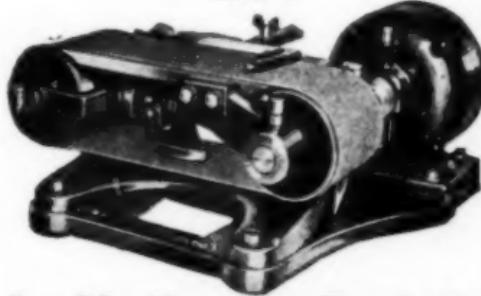
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Greatest distance bet. standards.....	20°	30°	30°	66°	88°	20°
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Aprox. shipping weight.....	45	90	150	350	650	
Code	Bed	Bed	Bed	Bed	Bed	

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Milling Machine
Vise
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Graduated
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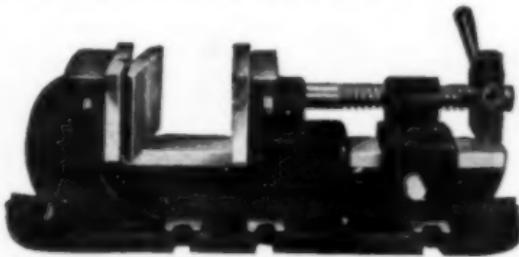
No. 1—6" jaws, 1½" deep, opens 5"	• • \$38.00
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Tools While
Machine is
in Opera-
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YES, it's possible with the new WILDER Quick Change feature. To remove or install the cutting tool all you do is lift up the knurled chuck. This releases the lock driving plunger allowing the cutting tool to drop out or be easily installed. Use a WILDER and note the increase in output per grind.

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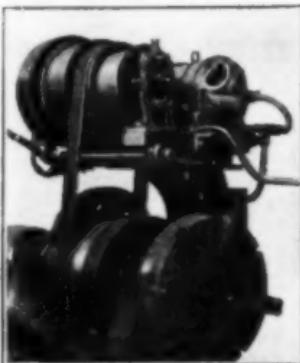
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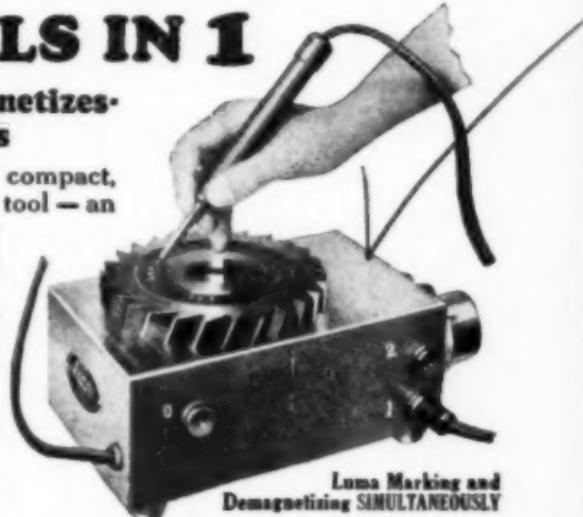
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42

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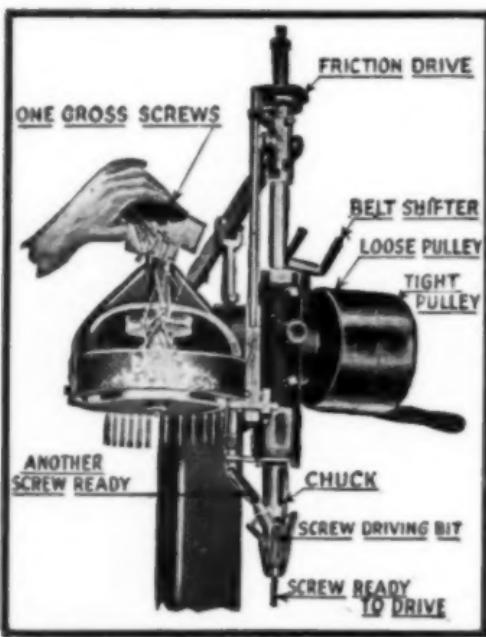
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Chicago Gear Works, 700-775 W. Jackson
Blvd., Chicago
Crofoot Gear Corp., C. E., So. Easton, Mass.

Grinding Machines, Angle Plate

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Grinding Machines, Belt

Cincinnati Electrical Tool Co., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.
Standard Electrical Tool Co., Cincinnati, O.
Walls Sales Corp., 96 Warren St., New York

Grinding Machines, Bench

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Grinding Mch., Combination Buffer

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Grinding Mch., Cutter, Rammer and Tool

LoBlond Mch. Tool Co., R. K., Cincinnati, O.
National Machine Tool Co., Racine, Wis.
Standard Electrical Tool Co., Cincinnati, O.
Surfacer Mfg. Co., 2456 Irving Park Blvd.,
Chicago, Ill.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Cylindrical

Thompson Grinder Co., Springfield, Ohio

Classified Finding Index

Grinding Machines, Disc

Standard Electrical Tool Co., Cincinnati, O.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Snagging

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Grinding Machines, Disc

Porter-Cable Machine Co., Syracuse, N. Y.
Standard Electrical Tool Co., Cincinnati, O.

Grinding Machines, Surface

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Drill

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Grinding Machines, Tap

Standard Electrical Tool Co., Cincinnati, O.

Grinding Machines, External

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Grinding Machines, Tool

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.
Surfacer Mfg. Co., 2466 Irving Park Blvd.,
Chicago, Ill.
Taylor & Fenn Co., Hartford, Conn.

Grinding Machines, Face

Taylor & Fenn Co., Hartford, Conn.

Grinding Machines, Tool Post

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Grinding Machines, Floor

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Grinding Machines, Universal

Surfacer Mfg. Co., 2466 Irving Park Blvd.,
Chicago, Ill.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Internal

Mall Tool Co., 8389 S. Chicago Ave., Chgo.
National Machine Tool Co., Racine, Wis.
Standard Electrical Tool Co., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Vertical Spindle

Standard Electrical Tool Co., Cincinnati, O.

Grinding Machines, Center Electric

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Hack Saw Blades

Armstrong-Blum Mfg. Co., 841 N. Francisco
Ave., Chicago
Peerless Machine Co., Racine, Wis.

Grinding Machines, Lathe Electric

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Hack Saw Machines

Armstrong-Blum Mfg. Co., 841 N. Francisco
Ave., Chicago
Peerless Machine Co., Racine, Wis.

Grinding Machines, Portable Electric

Cincinnati Electrical Tool Co., Cincinnati, O.
Mall Tool Co., 7730 S. Chicago Ave., Chgo.
National Machine Tool Co., Racine, Wis.
Porter-Cable Machine Co., Syracuse, N. Y.
Standard Electrical Tool Co., Cincinnati, O.
Strand Co., N. A., 5001 N. Lincoln St., Chgo.

Hoists, Portable

Canton Foundry & Machine Co., Canton, Ohio

Hollow Mills

Wilder Tool Co., Greenfield, Mass.

Classified Finding Index

Individual Motor Drives

Hertaler & Zook Co., Belleville, Pa.

Jacks, Hydraulic

Vickers Manufacturing Co., Buffalo, N. Y.

Jigs and Fixtures

American Tool Works, Inc., Hartford, Conn.
Eico Tool & Screw Corp., Rockford, Ill.

Lag Screws

Eico Tool & Screw Corp., Rockford,

Lathe Drives

Collman Wheel Co., 1200 Altgeld St., Chicago,
Hertaler & Zook Co., Belleville, Pa.

Lathe Grinders

Standard Electrical Tool Co., Cincinnati, O.

Lathe, Automatic

Townsend Mfg. Co., H. P., Hartford, Conn.

Lathe, Bench

Ames Co., B. C., Waltham, Mass.

Lathe, Engine

LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.

Lathe, Extension Bed Gap

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Lathe, Gap

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Lathe, Manufacturing

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Lathe, Polishing and Buffing

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Lathe, Precision

LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Wade Tool Co., Waltham, Mass.

Lathe, Short Bed

Porter-Cable Machine Co., Syracuse, N. Y.

Lathe, Tool Room

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Mandrels, Expanding

Nicholson & Co., W. H., Wilkes-Barre, Pa.
Western Tool & Mfg. Co., Springfield, O.

Mandrels, Solid

Nicholson & Co., W. H., Wilkes-Barre, Pa.

Machine Screws

Eico Tool & Screw Corp., Rockford, Ill.

Milling Attachments

Burke Machine Tool Co., Conneaut, Ohio
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.
Taylor & Fenn Co., Hartford, Conn.

Milling Machines, Bench

Ames Co., B. C., Waltham, Mass.
Burke Machine Tool Co., Conneaut, Ohio

Milling Machines, Hand

Burke Machine Tool Co., Conneaut, Ohio
Superior Machine & Eng. Co., Detroit, Mich.

Milling Machines, Manufacturing

Kearney & Trecker Corp., Milwaukee, Wis.

Milling Machines, Plain

Burke Machine Tool Co., Conneaut, Ohio
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Milling Machines, Spline

Taylor & Fenn Co., Hartford, Conn.

Milling Machines, Universal

Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Milling Machines, Vertical

Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Name Plates, Etched and Stamped

Schwerdtle Stamp Co., Bridgeport, Conn.

Nibbling Machine

National Machine Tool Co., Racine, Wis.

Classified Finding Index

Net Setters, Electric

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Pumps, Lubricant

Hathman Machinery Co., Cincinnati, O.

Nuts, Machine Screw

Eico Tool & Screw Corp., Rockford, Ill.

Punch Press Feeds

Wittek Mfg. Co., 4309 W. 24th Place, Chgo.

Pins, Leader And Dowel

Baumbach Mfg. Co., E. A., 1812 So. Kilbourne Ave., Chicago

Punch, Shear and Bender, Hand

Armstrong-Hum Mfg. Co., 841 N. Francisco Ave., Chicago

Punches, Hand

Armstrong-Hum Mfg. Co., 841 N. Francisco Av., Chicago
Lowthwaite Mch. Co., T. H., 811 E. 47th, New York
Whitney Metal Tool Co., Rockford, Ill.

Pipe Plugs, Square Head and Slotted

Eico Tool & Screw Corp., Rockford, Ill.

Punches and Dies

Lowthwaite Mch. Co., T. H., 811 E. 47th, N. Y.

Polishing and Buffing Machines

Cincinnati Electrical Tool Co., Cincinnati, O.
Excelsior Tool & Mch. Co., E. St. Louis, Ill.
Mail Tool Co., 7730 S. Chicago Ave., Chicago
Standard Electrical Tool Co., Cincinnati, O.

Punches and Shears

Excelsior Tool & Mch. Co., E. St. Louis, Ill.

Pyrometers

Illinois Testing Laboratories, Inc., 150 W. Austin Ave., Chicago

Presses, Arbor

Atlas Press Co., Kalamazoo, Mich.
Nicholson & Co., W. H., Wilkes-Barre, Pa.
Sheldon Mch. Co., Railway Exchange Hdg., Chicago, Ill.
Wilson, R. E., Buffalo, N. Y.

Reamer Holders

Nicholson & Co., W. H., Wilkes-Barre, Pa.

Reamers, Adjustable

Cleveland Twist Drill Co., Cleveland, Ohio.
Schellenbach Hunt Tool Co., Cincinnati, O.

Presses, Foot

Taylor & Fenn Co., Hartford, Conn.

Reamers, Portable Electric

Standard Electrical Tool Co., Cincinnati, O.

Presses, Punch

Lowthwaite Mch. Co., T. H., 811 E. 47th, N. Y.

Riveters, Multiple Spindle

Grant Mfg. & Mch. Co., Bridgeport, Conn.

Pulley Machinery

Avey Drilling Machine Co., Cincinnati

Riveters, Pneumatic

Grant Mfg. & Mch. Co., Bridgeport, Conn.

Profiling Machines

Wade Tool Co., Waltham, Mass.

Riveting Machines

Grant Mfg. & Mch. Co., Bridgeport, Conn.
Townsend Mfg. Co., H. P., Hartford, Conn.

Pulleys, Iron, Solid and Split

Chicago Gear Works, 700 W Jackson Blvd., Chicago, Ill.
Conway Clutch Co., Cincinnati, O.

Rod Cutters

Armstrong-Hum Mfg. Co., 841 N. Francisco Av., Chicago
Lowthwaite Mch. Co., T. H., 811 E. 47th, N. Y.

Roll Forming Machines

McKinney Tool & Mfg. Co., Cleveland, Ohio

Classified Finding Index

Saw Sharpening Machines

Wardwell Mfg. Co., Cleveland, O.

Saws, Electric Hand

Porter-Cable Machine Co., Syracuse, N. Y.

Scraping Machines, Hand & Pneumatic

Anderson Brothers Mfg. Co., Rockford, Ill.

Screw Drivers, Electric

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Screw Driving Machines, Automatic

Reynolds Machine Co., Massillon, Ohio

Screw Machines, Automatic

Townsend Mfg. Co., H. P., Hartford, Conn.

Screws, Cap, Drive, Lag, Mch. & Wood

Eico Tool & Screw Corp., Rockford, Ill.

Set-Up Appliances

Standard Shop Equip. Co., Philadelphia, Pa.

Shafts, Flexible

Mall Tool Co., 7780 S. Chicago Ave., Chgo.
Strand Co., N. A., 501 N. Lincoln St., Chgo.

Shaping Machines

Osborne & Sexton Machy. Co., Columbus, O.
Smith & Mills Co., Cincinnati

Shears, Alligator

Canton Foundry & Machine Co., Canton, O.

Shears, Hand

Armstrong-Bunn Mfg. Co., 341 N. Francisco
Av., Chicago
Lewthwaite Machine Co., T. H., 31 E. 47th
St., New York
Whitney Metal Tool Co., Rockford, Ill.

Shears, Slitting

National Machine Tool Co., Racine, Wis.

Special Tools and Machinery

American Tool Works, Inc., Hartford, Conn.
Superior Machine & Eng. Co., Detroit, Mich.
Wade Tool Co., Waltham, Mass.

Speed Reducers, Worm, Spur and Herringbone

Boston Gear Works Sales Co., Norfolk
Chicago Gear Works, 789-773 W. Jackson
Bld., Chicago
Cullinan Wheel Co., 1859 Alteglo St., Chgo.

Spot Welding Machines, Speed

Eisler Electric Corporation, Newark, N. J.

Sprockets

Chicago Gear Works, 789-773 W. Jackson
Bld., Chicago
Cullinan Wheel Co., 1859 Alteglo St., Chgo.
Massachusetts Gear & T. Co., Woburn, Mass.

Stamps, Steel and Rubber

Schwerdtle Stamp Co., Bridgeport, Conn.

Stencils, Brass and Oil Board

Schwerdtle Stamp Co., Bridgeport, Conn.

Straightening Machines

Whitney Metal Tool Co., Rockford, Ill.

Stud Setters

Procurier Safety Chuck Co., 14 S. Clinton
St., Chicago

Tap Extractors

Walton Co., Hartford, Conn.

Tap Holders

Procurier Safety Chuck Co., 14 S. Clinton
St., Chicago

Tapping Machines and Attachments

Avey Drilling Machine Co., Cincinnati
Burke Machine Tool Co., Cincinnati, Ohio
Cincinnati Electrical Tool Co., Cincinnati, O.
Etco Tool Co., Inc., 594 Johnson Ave.,
Brooklyn, N. Y.
Leland-Gifford Co., Worcester, Mass.
Procurier Safety Chuck Co., 14 S. Clinton
St., Chicago
Whitney Metal Tool Co., Rockford, Ill.

Threading Machines, Automatic, Stud

Grant Mfg. & Mch. Co., Bridgeport, Conn.

Threading Tools

Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Western Tool & Mfg. Co., Springfield, O.
Wilder Tool Co., Greenfield, Mass.

Classified Finding Index

Tools, Boring

Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tools, Lathes and Planer

Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tools, Machinists'

Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tube Flanging Machines

Grant Mfg. & Mch. Co., Bridgeport, Conn.

Turntables

Canton Foundry & Machine Co., Canton, O.

Universal Joints

American Tool Works, Inc., Hartford, Conn.
Boston Gear Works Sales Company, Norfolk Downs, Mass.
Chicago Gear Works, 700 W. Jackson Blvd., Chicago, Ill.

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Automatic Machine & Engineering Co., Inc., Detroit, Mich.
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Blesser Mfg. & Mch. Co., J., Springfield, Ill.
Brandt, W. K., Pittsburgh, Pa.
Brotherhood & Son, Percy M., 25 Church St., New York, N. Y.
Brown Machinery Co., St. Louis, Mo.
Brown Machinery Co., Providence, R. I.
Cincinnati Mch. & Supply Co., Cincinnati, O.
Delta Equipment Co., Philadelphia, Pa.
Donahue Steel Products Co., 74th and Ashland Ave., Chicago
Eastern Machinery Co., Cincinnati, O.
Easley Machinery Co., E. L., 551 Washington Blvd., Chicago
Gockel, Arthur P., Cleveland, Ohio
Hill, Clarke & Co., 849 W. Washington Blvd., Chicago
Hyman & Sons, Joseph, Philadelphia, Pa.
Interstate Mch. Co., 130 S. Clinton, Chgo.
Iroquois Machinery Co., Buffalo, N. Y.
Johnson & Sons Machinery Co., Wm. C., St. Louis, Mo.
Jones Machine Tool Co., Cincinnati, Ohio
Lake Machinery Co., 1140 W. Lake Street, Chicago, Ill.
Long Machinery Corporation, Boston, Mass.
McDonald Machinery Co., St. Louis
Marr-Galbreath Mch. Co., Pittsburgh, Pa.
Mid-West Machine Tool & Supply Company, Davenport, Iowa
Miles Machinery Co., Saginaw, W. S., Mich.
Meray and Co., Inc., 400 Broome St., N. Y.
Nelson Machinery Co., Green Bay, Wis.
Newton-Broadway Mch. Co., Cincinnati, O.
O'Brien Machinery Co., Philadelphia
Osborne & Sexton Mch. Co., Columbus, O.
Randall Machinery Co., Cincinnati, O.
Reeves-Fritts Co., 558 W. Washington, Chgo.
Reliance Machinery Sales Co., Pittsburgh, Pa.
Russell Machine Co., Pittsburgh, Pa.

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Scott-Bansbach Mch. Co., 4607 W. 20th St., Chicago, Ill.
Segal Machinery Co., 800 W. Lake Street, Chicago, Ill.
Seyfert's Sons, Inc., L. F., Philadelphia, Pa.
Simmons Machine Tool Corp., Albany, N. Y.
Strafer Machinery Co., Jersey City, N. J.
Surplus Material & Mch. Co., Detroit, Mich.
Taylor-Hall Welding Corp., Worcester, Mass.
United Mch. & Supply Co., St. Louis,
Wacha-Gregg & Co., 117 N. Jefferson St., Chicago
Werlman Mch. Co., M. A., Cleveland, O.
West Penn Machinery Co., Pittsburgh, Pa.
White Mch. Co., A. D., 108 N. Jefferson St., Chicago
Wigglesworth Mch. Co., Cambridge, Mass.

Vises, Drilling Machines

Armstrong-Dunn Mfg. Co., 341 N. Francisco Av., Chicago
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago
Graham Manufacturing Co., Providence, R. I.
Plunket Mch. & Works, J. E., Springfield, O.
Plunket Mch. Co., J. E., 215 N. Ada, Chgo.
Sheldon Machine Co., Railway Exchange Building, Chicago, Ill.

Vises, Machinists'

Plunket Mch. Co., J. E., 215 N. Ada, Chgo.
Western Tool & Mfg. Co., Springfield, O.

Vises, Milling Machine

Graham Manufacturing Co., Providence, R. I.
Plunket Mch. Co., J. E., 215 N. Ada, Chgo.
Sheldon Machine Co., Railway Exchange Building, Chicago, Ill.

Vises, Shaper

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Plunket Mch. Co., J. E., 215 N. Ada, Chgo.
Sheldon Machine Co., Railway Exchange Building, Chicago, Ill.

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Welding Machines, Electric Spot

Eisler Electric Corporation, Newark, N. J.
Lenney Machine & Mfg. Co., Warren, Ohio

Welding Machines, Resistance
Eisler Electric Corporation, Newark, N. J.

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Eico Tool & Screw Corp., Rockford, Ill.

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Reamers made with Left Hand Angle Cutting Blades do not dig in, and all chatter is eliminated. This means free, clean cutting, smooth holes, and increased production.

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This is a real production reamer. The left hand helical flutes cut fast and clean. Made only in high speed steel. Made with straight and tapered shanks.

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Blower, No. 2 Champion & motor
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Boring mill, 14" Betts, 2 hds., m.d.
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Forging mch., 34" Ajax, steel bed.
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Grinder, No. 1 LaSalle surface.
Grinder, 18-D Rowbottom, o.h.b.b.
Grinder, No. 1 Norton tool & cutter.
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Miller, No. 3 LeBlond, plain.
Miller, universal No. 4 B. & S.
Miller, vert., Becker, Nos. 3 & 5-B.
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Press, F-162 Ferracute, foot power.
Presses, No. 3 Bliss, punch type.
Presses, o.b.i., No. 1 Toledo.
Press, No. 19, Bliss o.b.i.
Press, o.b.i. No. 1 Sidney, 1000 lbs.
Press, o.b.i. No. 3 Niagara, 1¹/₂" str.
Presses, foot, No. 87 Bliss, pendulum.
Press, No. 6 Perkins, s. s., 4000 lbs.
Presses, No. 87 Niagara, screw.
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Toledo boilermakers.
Reduction gears, various sizes.
Riveter, Giant No. 101, 5/16" cap.
Riveters, I-A-A, 3-A, 5¹/₂B, hi. speed.
Rolls, 30"x10", 31¹/₂"x3".
Rolls, hand, 31¹/₂"x2" P. S. & W.
Screw machine, No. 8G B. & S.
Screw mch., 10" P. & W., wire feed.
Shaper, 7" Rhodes, vert. ram, m.d.
Shaper, 16" Cin., b. g., crank.
Shaper, 24" G. & E., gear box, s.p.d.
Shaper, 25" S & M., b.g., crk., A-1.
Shear, 42"x4" Niagara, 18" gap.
Shears, 1¹/₂" & 2" Lennox, throatless.
Shear, foot, 30"x20" gauge.
Shear, foot, 42" Niagara 16 ga., h.d.
Shear, plate, 154"x1", for m.d.
Shear, alligator, No. 5 Canton, m.d.
Shear, alligator, 30" blade, 24".
Shear, alligator, 12" blade, 14".

USED AND REBUILT MACHINERY

Marr-Galbreath Machinery Co.—Continued

Shear, alligator, No. 2 Badger, 2"	Shear, 10'x16 ga. Ohl power.
Shear, rotary, 12" thrt., cap. 10 ga.	Slotter, 15" Dill, for motor drive.
Shear, rotary, 16 ga., Yoder, 24" thr.	Tappers, No. 2 Garvin, vertical.
Shear, squaring, 8"x14 ga. power.	Thread, mch., 4" Geometric.
Shear, squaring, 60"x14 ga. Canton.	Turret lathe, 26"x7½" h.s., Libby.
Shear, "squaring, 30"x18 ga., F. & P.	

FOR SALE BY

The Van Keuren Co., - 14 Copeland St., Watertown, Mass.

GAGE BLOCKS

Fifty dollars buys a brand new ten-thousandth 33 block set, .00001" accuracy. Rectangular shape interchangeable with Johansson blocks. Blanks seasoned over 12 years. A rare opportunity. Only 50 sets available. Order now. Satisfaction or money back guarantee.

FOR SALE BY

The Reeve-Fritts Co., 558-560 W. Washington Blvd., Chicago, Ill.

Drill, 6-spindle H. & W. b. b.	Miller, 2" P. & W. spline.
Drill press, 12" 2-spdl. Leland p. f.	Miller, No. 3 Cincinnati plain.
Drill press, 14" 2-sp Leland p.f.t.a.	Pinion cutter, No. 1 Sloan & Chace.
Gear hobber, No. 1 Adams.	Planer, 24x24x6 American.
Lathe, 18x6 Ryerson q. c. g.	Wood planer, 12" Porter.

FOR SALE BY

Mid-West Machine Tool & Supply Co., Davenport, Iowa

Automatics, Nos. 0 & 00 B. & S.	Hobbers, Nos. 3, 12-B & C.
Drill, 1SS Garvin duplex.	Lathe, No. 9 LeBlond multi-cut.
Grinder, 10"x36" Norton.	Millers, Nos. 1 & 2 Brown & Sharpe.
Grinder, No. 10 B. & S. ext.	Radials, 3' Cincinnati Bickford.
Grinder, No. 22 Heald rotary surf.	Turret lathe, No. 6 Warner & S.

Partial list; send us your inquiries.

FOR SALE BY

Interstate Machinery Co., - 130-2 So. Clinton St., Chicago, Ill.

Bending rolls, 6' 5/16"—10' 18 ga.	Planers, Pond 72"x60"x8'; Niles-Bement-Pond 30"x30"x12' m. d.
Boring mill, 3½" horiz., floor type.	Press brake, 10' 10 ga. motor drive.
Brakes, all sizes, hand or power.	Presses, Nos. 1 to 6 o. b. i.
Circle shears, Nia. 48"16 ga., 60"10 ga.	Shears, 10' 10 ga. motor drive, 72"
Lathes, 42"x14'; 32"x20'.	14 ga., 10' 18 ga.
Millers, Nos. 2 B. & S., Ohio, Cin.	

FOR SALE BY

Surplus Material & Machinery Co.

8735 Kercheval Ave., Detroit, Mich.

Milling Machines—Exceptional Quality

3B Milwaukee.	1½ B. & S. universal.
2B Milwaukee.	2 B. & S. universal.
2A Milwaukee.	36x36x8 Cincinnati planer.

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USED AND REBUILT MACHINERY

FOR SALE BY

Lake Machinery Co.

HAYmarket 5896

1140 W. Lake St.,

Chicago, Ill.

Boring mill, 30" Bullard.

Lathe, L. & S. 30"x14' q. c., d. b. g.
Planer, 36x36x10 Gray, 2 heads on
cross rail.

Grinder, Walker 12" rotary magnetic
surface.

Radial drill, 4' American.

Lathe, American 24"x10' & 24"x12',
q. c., double back geared.

Shaper, 24" Gould & Eberhardt crk.

Also numerous other items at reasonable prices.

FOR SALE BY

L. F. Seyfert's Sons, Inc., (Monarch Machinery Co. Div.)

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Philadelphia, Pa.

Drill, single spindle "Allen" hi-speed, ball bearing.

Lathe, 12"x6" tie bar head "Hendey", taper and pan.

Millers, "Cincinnati" No. 2M, arr. for motor; No. 14 "Cinn." univ., cone.

Shapers, 24" "Cincinnati" motor drive; 20" "G. & E.", cone.

Surface grinders, No. 2 "B. & S." and No. 3 "Abrasive."

FOR SALE BY

Arthur P. Gockel,

1817 East 26th St., Cleveland, Ohio

Bending rolls, Pexto, capacity 72" of 14 gauge.....	\$ 300.
Press, No. 164 Consolidated grid, d. c., 66" bet. hous., str. 3", shaft 3 $\frac{1}{2}$ ".....	750.
Press, No. 4 Bliss flywheel, knuckle joint, 70 tons cap., 14" stroke.....	675.
Presses, No. 406 Bliss; Nos. 163 & 164 Toledo toggle; No. 5A Bliss, etc.	
Shear, Erie plate, capacity 12" of 8" steel, 16" throat, motor drive.....	1,500.
Shear, Niagara power squaring, capacity 28" of 14 gauge.....	200.
Welder, Gibbs spot, 35 k. v. a., 220 volt, 42" arms.....	450.
Japanning ovens, gas or electric. Write me your requirements.	

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Taylor-Hall Welding Corporation, 99 Hope Ave., Worcester, Mass.

SPOT WELDERS

Thomson 35 k. w.

Taylor-Winfield 2 k. w.

Thomson No. 137 10 k. w.

Taylor 27 k. v. a.

Thomson No. 178-CA-12 15 k. w.

BUTT WELDERS

Toledo 8B, capacity 4".

Thomson 2-C, capacity $\frac{1}{2}$ ".

National 11-A, capacity 2".

Thomson 2-A automatic, capacity $\frac{1}{2}$ ".

Toledo No. 6, capacity 1".

Federal 4-A, capacity $\frac{1}{2}$ ".

National 18-A, capacity 2 $\frac{1}{2}$ ".

Thomson 7-A automatic, cap. $\frac{1}{2}$ ".

FOR SALE BY

M. A. Wertman Machinery Co., 427 Penton Bldg., Cleveland, Ohio

Drill, Allen 4-spindle, pwr. fd., 8" overhang, No. 2 Morse taper, late mach.	
Gang slitter, Yoder G-36, lot of cutters and spacing collars, fine condition.	
Headers, cold, Manville No. 2, 3 and 4 s. d. d. s., excellent condition.	
Lathe, Rivett No. 505 NS precision bench, lot of attachments.	
Lathe, Cincinnati 16"x8" q. c. g., fine condition, very low price.	
Sprue cutter, Coleman No. 5 capacity 1'x14" nearly new.	
Screw machine, Bardons & Oliver No. 2 g. f. h. pwr. fd., collets, very good.	
Testing machine, Olsen 20,000 lb, four screw universal.	
Turret lathe, Warner & S. No. 2A bar & chucking, good cond., low price.	

USED AND REBUILT MACHINERY

FOR SALE BY

West Penn Machinery Company

1208 House Building,

Automatic, No. 0 Brown & S. b. d.
Air compressors, 30 to 2500 cu. ft.
Bender, No. 6-C Wallace, m. d.
Blowers, Nos. 3 & 4 North Amer.
Bolt cutter, 24" Acme, agl. hd. m. d.
Bolt cutter, 18" Landis, dbl. head.
Bolt cutter, 1" Landis, 3hds., m. d.
Boring mill, 60" Pond, b. d.
Boring mill, 72" Colburn, 2hds. m.d.
Boring mill, 10'-16' Betts, 2 hds. m. d.
Bor. mill, hor., No. 1 Cleve. 24" bar.
Boring mill, floor type, 4' Basement.
Brake, 5' press type, 10 gauge.
Brake, 6' hand, 16 gauge.
Brake, 8' D. & K. 10 ga. box & pan.
Brake, 10' Dreis & K. 3/16", m. d.
Bulldozers, Nos. 2, 4, 6, 28, 29 & 30.
Die threader, Smalley General, dies.
Dieing mches., 25 & 50 ton H. & W.
Drill, 21" Rockford, tap, att. m. d.
Drill, No. 3 Defiance, No. 5 M. T.m.d
Drill, radial, 24" Fosdick, t. a., b. d.
Drill, radial, 4" Prentice, t. a., b. d.
Drill, radial, 5' Dresses, motor on arm
Drill, radial, 6' Dresses, s. p. d.
Flanger, McCabe, 4" capacity, dies.
Gear cutter, Wade, 18".
Gear cutters, 11", 24" & 36" Gleason.
Gear cutter, spur, 36"x10" Newark.
Gear hobber, No. 3 Sch. & Sch. 118".
Gear planer, 20-ft. Gleason, m. d.
Gear tester, 18" Gleason, bevel.
Grinder, rad., 14" M. & D., m. d.
Grinder, internal, No. 70 Heald.
Grinder, surface, No. 16 Blanchard.
Grinder, surface, 14" Arter.
Grinder, surface, No. 2 Reid, b. d.
Grinder, tool & cut., No. 2 Walker.
Hammer, Blacker, power, 35-lbs.
Hammer, 30-lb. Bradley, cush. helve.
Hammer, 200-lb. Bradley, cush. helve.
Hammer, 200-lb. Bradley, compact.
Hammers, Nos. 3-B, 4-B, 4-N Hazel.
Hammers, steam, 600 lb. to 6000 lbs.
Jacks, 35-ton Barrett, ball bearing.
Keyseater, No. 1 Mittu & Merrill.
Lathe, 16"x16" LeBlond, q.c g. d.b.g.
Lathe, 20"x8" Hendey, tie bar, t. a.
Lathe, 24"x16" Bridgeford, g. hd.m.d.
Lathe, 30"x16" Lehman, g. hd. m. d.
Lathe, 48"x26" Bridgeford, g.hd.m.d.
Lathe, 32"x32" American, g. hd.m.d.
Lathe, turret, No. 6 Warner & S.
Lathe, turret, 18" Libby, m. d.
Lathe, turret, 24" Steinle, 64" hole.
Lathe, turret, 24" Libby, 76" hole.
Lathe, tur., 25" Gisholt, 9" hole.m.d.
Lysholm tables, 72"x30".
Miller, plain, No. 2-A Milwaukee.
Miller, universal, No. 3 LeBlond
Miller, universal, No. 4-A B. & S.
Miller, vert. No. 3 Cincinnati, h. p.
Miller, vert. No. 5 Brown & Sharpe.

Pittsburgh, Pa.

Miller, Ingersoll, 48x48"x20" adj.rail.
Nut tapper, 6-spindle Acme, 2".
Nut tapper, 10-spindle Acme, 18".
Pipe machine, 2" Landis.
Pipe machine, 6" Landis, m. d.
Pipe mchs., 8" Oster, 8" Williams.
Planer, 30"x30"x10' Woodward & P.
Planer, 48"x48"x18" Cincinnati, b. d.
Planer, o. s., 36"x36"x16" D. & H.
Planer, o.s., 48"x48"x12" D. & H.m.d.
Planer, rotary, 48" Niles, m. d.
Presses, arbor, Nos. 7, 17 Greenerd.
Press, o.b.i. Ferracute Cl, 3" stroke.
Press, o. b. i. No. 21 Bliss, b. d.
Press, o.b.i.CG-6 Ferracute, 12000lbs.
Press, hydraulic, 1,000 ton United.
Press, hyd. 100-ton Watson-Stillman.
Press, s. a., 13"x19", 2" stroke.
Press, No. 75 Toledo, 14" stroke.
Press, No. 78 Bliss, t. r. 10" str.
Press, No. 92 B Toledo, d.c. 24" str.
Press, screw, No. 87 Niagara.
Press, wheel, 200-ton Schaffer.
Press, wheel, 300-ton South'k, 60"-13".
Punch, hor., Cleveland, 1" thru 1".
Punch, hand, Shatz, bar and angle.
Punch & sh. No. 6 L. & A. 4" thru 4".
Punch, multiple, No. 5 H. & J. 10".
Riveters, air, hammer, spinning.
Rolls, bending, 12"x4" H. & J. d. e.
Roller, thread, Nos. 40 & 50 W.-F.
Sand blast, Pangborn, 90", ER-1.
Saw, band, metal No. 2 Klem, m.d.
Saw, cold, 48" Newton, m. d.
Saw, friction, Nos. 2 & 3 Ryerson.
Saw, hack, No. 5 Marvel, b. d.
Saw, univ., Peerless, 6"x6", m. d.
Saw, univ. Peerless, 13"x16", m. d.
Screw mch., No. 2 B. & S wire feed
Shapers, 16", 20", 24" & 36" G. & E.
Shaper, 24" Smith & Mills, m. d.
Shaper, 48" Morton, draw cut.
Shear, angle, 6"x6" x1" Cleveland.
Shear, alligator, 14", 2", 3" & 4".
Shear, bevel, Lennox 4".
Shear, gang slitter, No. 238-A Bliss.
Shear, Cleveland "W" 3" capacity.
Shear, rotary, 4" Ryerson.
Shear, 36"x16" ga. Pexto, foot.
Shear, squaring 8"x16" ga. Ohl.
Shear, 54"x1" Garrison, 24" gap, m.d.
Shear, 12"x1" Wheeling, 31" gap,m.d.
Slotter, 18" Dill, m. d.
Straightener, 60" Nat. 14 ga. 17 rolls.
Straight'r, 48" United, 16 ga. 13 rolls.
Straightner, 18" round Abramson.
Straightener, 4" round Abramson.
Straight'r, No. 2-AK. & R. 20 roll, m.d.
Swaging mche., No. 5-A Standard.
Testing mches., 50,000 & 100,000-lb.
Tumbling barrel, 18"x36", b. d.
Upsetters, 1" to 6".
Welders, spot and butt.

USED AND REBUILT MACHINERY

FOR SALE BY

The Jones Machine Tool Co.,

Bor. mill, No. 32 G. & L. hor., 3" bar.
Car wheel borer, 36" Niles.
Gear cutter, No. 13 Brown & Sharpe.
Gear hobber, No. 12 Barber Colman.
Grinder, suri., No. 1 Diamond m. d.
Lathe, 16"x10' Hendey q. c. tie bar.
Lathe, 79" dbl. head, driving wheel.
Lathe, turret, Nos. 2A & 3A W. & S.

Send for our new list just issued, containing many special offerings.

FOR SALE BY

The E. L. Essley Machinery Co.

Telephone Randolph 9191

Bolt cutter, $\frac{1}{2}$ to $2\frac{1}{2}$ " Landis, Acme.
Boring mill, 32" King with bor. head
Drill, Avey, Allen, Leland-Gifford.
Grinder, No. 2 Reid surface.
Grinder, No. 29-53" Besly m. d. disc.
Hammer, No. 5A High Speed rivet.
Hobber, Nos. 3 & 12 Barber-Colman.
Lathe, 17"x4" Hendey, arr. for m. d.
Lathe, 20"x18" Sidney.
Lathe, 25"x12" Sidney.
Lathe, 33"x16" Le Blond, geared hd.
Miller, Nos. 2 & 3 Cincinnati plain.
Miller, No. 2 Ohio heavy universal;
No. 2 Van Norman duplex.
Miller, No. 3 Cincinnati, universal.

Front & Pike Sts., Cincinnati, Ohio

Miller, No. 3 Cinti. high pwr., s. p.
Miller, No. 2 Cinti high power s. p.
Miller, No. 2-M Cin., s. p. d. plain.
Planer, 30x30x8" Cincinnati 1 head.
Planer, 24x24x6" Ohio 1 head.
Radial, 5' American enclosed head.
Radial, 3' Bickford s. p. gear box.
Shear, 10"-14 gauge.

Send for our new list just issued, containing many special offerings.

551 W. Washington Blvd., Chicago

Pipe mchc., 6" Landis, 6" E. C. & B.
Planer, 16" Niles plate.
Planer, 22"x22"x4" Whitcomb.
Planer, 36"x36"x14" Chandler.
Press brake, 10'-6" Ohl. 10 ga. cap.
Presses, No. 165-B Consolidated gd.
Presses, Nos. 19 and 21 $\frac{1}{2}$ Blins.
Presses, No. 5 Toledo, o. b. i.
Radial, 24" & 6' Am. 3' & 5' Cin-Bick
Saws, 6"x6" Peerless; No. 12B Higley
Screw mchcs., Nos. 5 & 6 Wood tilted
Screw mchcs., No. 4 Warner & S.
Shapers, 20" and 32" Columbia.
Shear, 42" Stoll, 16 ga.
Turret lathe, No. 1-B Foster chuck.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

1211-1223 N. 12th St.,

Bar shear, 5"x4".
Bolt threader, 1 $\frac{1}{2}$ " Merriman.
Bolt threader, 2" Landis.
Boring mill, 36" Gisholt.
Drill, 3' American, triple purpose.
Drill, 14" Mason high speed.
Drill, 20" Champion.
Drill, 22" Barnes, back geared.
Drill, 24" Prentice, sliding head.
Drill, 25" Barnes back geared.
Drill, 28" Barnes sliding head.
Drill, 1-spindle Avey.
Drill, 2-spindle Leland-Gifford.
Drill, 3-spindle Avey.
Grinder, Weis Bros. universal.
Grinder, 12"x60" Landis universal.
Hammer, 60 lb. Bradley helve.
Hammer, 600 lb. steam.
Lathe, 14"x10' Lodge & Shipley, qcg.
Lathe, 18"x10' Bradford.
Lathe, 20"x10' Bradford.
Lathe, 24"x10' Le Blond.
Lathe, 24"x12' Schumacher-B., qcg.
Lathe, 30"x15' Lodge & Shipley, qcg.
Lathe, 36"x18' American, q. c. g.
Miller, No. 1 U. S. hand.

St. Louis, Mo.

Miller, No. 2 Le Blond universal.
Miller, No. 2 Ohio single pulley dr.
Miller, No. 3 Rockford hand.
Miller, No. 5-B Brown & Sharpe.
Pipe machine, 8" Bignall & Keeler.
Pipe machine, 10" Bignall & Keeler.
Press, No. 57 Swaine straight back.
Press No. 1 $\frac{1}{2}$ Bliss toggle.
Press, No. 3 Toledo.
Press, Stiles & Parker drawing.
Press, No. 37 Niagara str. back.
Press, No. 24 Toledo cam drawing.
Press, No. 723 Toledo cam drawing.
Punch, No 14 W. W., 12" throat.
Punch, double end, two 20" throats,
capacity 1" in 1".
Planer, 42"x42"x26" Wheeler, 2 hds.
Screw machine, No. 3A Warner & S.
Shaper, 16" Smith & Mills.
Shaper, 32" Cincinnati.
Shaper, 34" American-Klopp.
Shear, 48" Excelsior, No. 16 gauge.
Shear, 36" Bertsch, No. 16 ga. foot p.
Squaring shear, 8' power.
Tapper auto., Rickert & Schafer.

USED AND REBUILT MACHINERY

FOR SALE BY

W. E. Brandt

Brake, 10'x $\frac{3}{4}$ " D. & K., leaf type.
 Brake, 10'x $\frac{3}{4}$ " D. & K., leaf type.
 Brake, 10'x $\frac{3}{4}$ /16" D. & K., leaf type.
 Brake, 6' 6" x $\frac{3}{4}$ " D. & K., press type.
 Bender, Cleveland 15" I beam.
 Bulldozers, Nos. 2, 4, 24, 5, 26, 7,
 29U Williams-White.
 Crane, 65t, 42' P. & H., 3-60-440 v.
 Dieing mach, 25 ton & 50 ton Wright.
 Grinder, cylinder, "Micro" A-1.
 Hammer, 4B Hazel.
 Hoist, 3 ton, low head, A-1.
 Lathe, 25"x16" Sidney, chuck, A-1.
 Miller, No. 2 Beaman & S., 2-way.
 Oven, japanning, 5"x8" Gehring.
 Pipe mch. No. 306B Oster, 1 $\frac{1}{2}$ " 6. m.d.
 Press, No. 1 Toledo, inclinable, A-1.
 Press, No. 76 Consolidated, str. 5'.
 Press, dbl. cr. Ferracute, bed 29x69.
 Press, dbl. cr. Garrison, bed 63x36.
 Press, dbl. cr. Ferracute, bed 72x48.

May we have your inquiries?

FOR SALE BY

McDonald Machinery Co.,

Air compressors, Curtis 10x10 m. d.
 Bolt mchs., Landis & Acme 14".
 Boring mill, Lucas No. 21 horizontal
 Boring mills, 4 Bullard 42" low price.
 Brake, D. & K. 6' 10 gauge, power.
 Cut-off mchs., 4 Davis 6" capacity.
 Drill, Moline 4-spindle and 32-spindle.
 Drill, Foote-Burt 4-sp. No. 2 gang.
 Drill presses, Allen and Sipp 4-spdl.
 Drills, Cincinnati-Bickford 3' & 3 $\frac{1}{2}$ '
 radials, gear box drive.
 Drills, Sipp 1-spindle, h.s., b. b.,
 H. & W. 2 spdl.; H. & W. 6-spdl.
 Drills, 20", 24", 26 & 28" b. g., & tap.
 Gear hobber, G. & E. 24".
 Grinders, B. & S. No. 2 universal;
 B. & S. No. 2 surface, complete.
 Grinders, Landis No. 14 int., Landis
 16"x42" universal.
 Grinder, Pratt & Whitney vert. surf.
 Hack saws, 6x6 Racine Peerless h. s.
 Keyseater, Mitts & Merrill No. 2.
 Lathes, Hendey 14"x6" q. c. g. yoke
 head; Davis 22"x10" q. c. g.;
 Sidney 18"x6" q. c. g. LeBlond
 16"x8" Whitcomb-B. 22"x8" q. c. g.
 Monarch 16"x8"; C. & J. 15"x8";
 Superior 18"x8"; L. & S. & Cinti.
 16"x6", q. c. g.; American 22"x10'
 q.c.g. geared hd.; American 16"x6"
 q. c. g.; Lehmann 18"x7" q. c. g.;
 40 assorted sizes, quick and loose
 change gear, G-K 24"x16" l. c. g.
 Milling machines, Van Norman
 No. 2 duplex; Ohio No. 20 plain,
 LeBlond No. 3-H; Brown & S.
 No. 3; B. & S. No. 3 B pl., s.p.d.;

50 Penn Ave., Pittsburgh, Pa.

Press, double cr. 65F Niagara.
 Press, dbl. cr. Toledo bed 32x84.
 Press, s. s., Niagara bed 45x41.
 Press, No. 57 Consolidated, bed 27x50
 Press, horning No. 16 Bliss.
 Punch, No. 5 Massillon, 42" throat.
 Punch, Cleveland Type W, 18" thr.
 Roll, bending 6"x $\frac{3}{4}$ " Lord & Bowler.
 Saw, No. 4 Espen-Lucas 36" saw.
 Shear, No. 112 Lennox throatless.
 Shear, No. 2 Campbell nibbler.
 Spring pointer, Coulter & McKenzie
 Str. mach. 49" United Eng. 17 roll.
 Str. mach. No. 2 United Engr. 17 roll
 Str. mach. No. 3 Sutton-Abramson.
 Thread roller, No. 40 & 60 W.-F.
 Welder, 200 amp. arc. gas engine.
 Welder, butt, 4" National, type 6A.
 Welder, spot, 70 amp. 3" sheets.
 Welder, Oxygen cutting mch. No. 4
 Welder, butt, Toledo, 75 k w., 1 $\frac{1}{2}$ " rd.

1535 N. Broadway, St. Louis, Mo.

American No. 14; Kempsmith No. 1
 Cleveland No. 2; Becker No. 25 all
 plain; Kemp No. 3; Cin. & B. & S.
 No. 14; Ohio No. 29 all universal;
 B. & S. No. 5 vertical; Cincinnati
 18" mfg; Becker No. 2-H vertical.
 Milling and drilling mchs., Knight
 No. 14 with power feed, vertical.
 Pipe machine, Curtis 3", motor dr.;
 Merrill 4"; Curtis 24" to 12" m. d.
 Planers, Gray 28"x28"x8", 1 head;
 Cincinnati 36"x36"x18" 2 heads;
 Pond, 36"x36"x12" table, 18" bed,
 2 heads; Flather Gray 24"x24"x6".
 Punch presses, Bliss No. 12 & Swaine
 No. 63 straight side geared, Federal
 Nos. 1, 3, 3 and 4; Bliss No. 19;
 Swaine No. 37; Sidney No. 2, o.b.i.
 Screw machine, Cleveland 24" auto.;
 P. & W. No. 24 hand; Foster No. 3
 hand; Woods No. 2 tilted turret,
 Millholland No. 4 b.g. hand; Foster
 No. 7 hand b. g.; W. & S. No. 1.
 Slotters, P & W. 6"; N. B. P. 10" vert.
 Shapers, S. M. 16"; 24"; Queen City
 24" back geared; G. & E. 16", b.g.;
 Niles traveling head; Milwaukee
 16" b. g.; Walcott 20" b.g.; S. & M.
 & Ohio 26", b. g.; Ohio 16", Cincinnati
 20", b.g.; Rhodes 7"; Queen
 City 16" b. g.; Potter & J. 16".
 Shears, 60" thrt. rotary slitting, (2).
 Spot welders, 5, 7 $\frac{1}{2}$, 10, and 20 k. w.
 Square shears, Niagara 62" power.
 m. d. 18-ga.; Ohl 18" power 16 gauge.
 Threadmiller, Lees-Bradner No. 3E.
 Turret lathes, Warner & S. No. 2A.

USED AND REBUILT MACHINERY

FOR SALE BY

Norton-Broadway Mchy. Co., Sixth & Baymiller Sts., Cincinnati, O.
 BORING MILLS.

24" and 36" Bullard New Era.
 36" and 51" Niles, 2 hds. \$425 & \$850.

DRILLS AND RADIALS

6' American, gear box, sgl. pul. \$1000.
 4' Morris, single pulley..... 775.

LATHES

60"x16" New Haven..... \$1050.
 36"x22" New Haven, blocks to
 44"..... 675.
 30"x14" Prentice q. c.
 26"x48"x10" McCabe dbl. sp. 725.

MILLING MACHINES.

No. 2 Cincinnati univ., cone. \$775.
 No. 2 Cinti, vert., sgl. pulley.. 1050.
 No. 4 Cinti, vert., sgl. pulley.. 975.
 No. 3 Cincinnati pl. sgl. pulley 950.

PLANERS AND SHAPERS.

26"x26"x10' Gray, 1 head..... \$375.
 36"x12'D. & H. openside, 3 hds. 1250.
 48"x10' Belmer, 4 heads..... 950.

MISCELLANEOUS.

Automatic, No. 2-G B. & S ... \$ 465.
 Grinder, B. & S., planer type... 325.
 Pipe mchs, Curtis & Curtis 12" 575.
 Presses, No. 152 Toledo dbl.
 crank, 13,000 lbs. 800.

24" Cleveland horiz., rot.tbl. \$1250.

No. 310 Baker heavy duty

19"x12" Sidney q. c..... \$ 685.

18"x8" Mueller, q. c..... 380.

17"x8" LeBlond, q. c..... 500.

13"x8" Willard, geared head.

14"x8" Bradford, q. c.

19"x12" Sidney q. c..... \$ 685.

18"x8" Mueller, q. c..... 380.

17"x8" LeBlond, q. c..... 500.

13"x8" Willard, geared head.

14"x8" Bradford, q. c.

19"x12" Sidney q. c..... \$ 685.

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18"x8" Mueller, q. c..... 380.

17"x8" LeBlond, q. c..... 500.

13"x8" Willard, geared head.

14"x8" Bradford, q. c.

FOR SALE BY

Percy M. Brotherhood & Son, - 25 Church St., New York, N. Y.

POWER PRESS BRAKES

Ohl 10'-10 gauge.
 Ohl 12'-#".

Cincinnati 10'-3/16"

Cincinnati 12'-5/16"

Chicago 10'-3/16"; 11"; 12";
 Chicago 96"-No. 10-3/16"

Chicago 60"-No. 10.

DIE SINKERS

Pratt & Whitney Nos. 2 and 3 Jackson No. 10.

LATHES

63"x30' geared head.
 48"x30' geared head.
 48"x40' geared head.

18"x20"x20' Rahn-Larmon gap.

42"x72"x16' F. & S. gap.

PIPE MACHINES

12" Curtis, motor drive. 6", 8", 10" Bignal & Keeler.

PUNCHES AND SHEARS

Ryerson No. 4 iron workers. Buffalo No. 27 universal.

SHEARS

Hilles & Jones 48"x1" plate. Hilles & Jones No. 5 single punch
 54".

Hilles & Jones 72"x1" plate. Unishear 36", capacity 1"

POWER SQUARING SHEARS

Chicago 8', 10', 12'-No. 10 to 4"

Niagara 96"x14".

Chicago 15' for No. 16. Pexto 96"x10"

PELS TRIPLE PURPOSE MACHINE

Sizes No. 12; No. 16; No. 23.

MISCELLANEOUS

Bending rolls, 4' to 30'. Nibbler, Gray 30", capacity 3/16".

Drills, all kinds. Planers, all sizes; 24" to 120".

Gang slitter, L. & N. 38" Planers, plate, 16" to 24".

Millers; plain and universal. Radial drills, 3' to 72".

Millers, planer type, 24" to 60" Shapers, 16" to 36".

Send for our list.

USED AND REBUILT MACHINERY

FOR SALE BY

Wigglesworth Machinery Company

199 Bent Street,	Cambridge, Mass.
Blocks, Johansson	\$125.
Drill, 2 spindle Leland-Gifford	150.
Drill, 4 spindle Leland-Gifford	450.
Drill, 3' American radial	600.
Lathe, No. 4 Stark, collets	135.
Lathe, Ames, collets	145.
Lathe, 7"x2½" Dalton	95.
Lathe 9"x3" Monarch, q. c. g.	160.
A Hundred Other Bargains.	

FOR SALE BY

Scott-Bansbach Machinery Co., 4607 West 20th St., Chicago, Ill.

Automatic screw machines, No. 90 B. & S., ser. nos. 2232 & 5152.	\$325-\$400.
Auto. screw mch's. No. 9 B. & S. nos., 3340, 3495, 3831, slotting att. each	450.
Automatic screw mch'e., No. 9 B. & S. turret former, serial no 3123.	200.
Automatic screw machine, 1½" Gridley 4 spindle model F	500.
Automatic screw machine, 2½" Cleveland model A, square pan	500.
Automatic screw machine, 2½" Cleveland model A, square pan	500.
Holt cutter, 1" Landis complete	200.
Compressor, 4½"x6" Gardner vertical, w. c. with tank 30"x72"	125.
Drill, 24" Sibley sliding head, b. g. and p. f.	200.
Drill, 2-spindle H. W., h. s., b. b. heavy duty, class B	200.
Gear hobber, S. & S. No. 6, capacity 12"x10"x8½ d. p.	300.
Gear cutter, B. & S. No. 3 26" for spur gears	300.
Grinder, No. 2 Brown & Sharpe automatic surface, magnetic chuck	400.
Grinder, Capitol internal, capacity 3/16" to 2"x2"	150.
Grinder, No. 7 Gardner 30", b. b. with press, belted motor drive	325.
Lathe, 16"x6" LeBlond quick change	250.
Lathe, 18"x6" Hendey quick change, taper attachment serial no 19189.	500.
Lathe, 18"x7" South Bend q. c. motor driven, 2 chucks	500.
Lathe, 18"x29" Chard semi-quick change gear	325.
Lathe, 18"x8" Davis heavy duty, q. c. g., d. b. g., 14" 4-jaw chuck	500.
Lathe, 20"x8" Monarch, d. b. g., q. c. chucks	400.
Lathe, 30"x13" H. S. & G. heavy duty, q. c. g., d. b. g. 16,000 lbs.	1,250.
Miller, No. 3 Cincinnati, cone drive, old style	350.
Miller, No. 3 Kempsmith, cone drive, with c/s and vise	600.
Miller, No. 1 Garvin universal, fully equipped	450.
Miller, Cleveland universal, No. 1 g. h., fully equipped	650.
Miller, No. 2 MU. Garvin universal, fully equipped	550.
Miller, 12" Cincinnati, mfg. type, s. p. d., vise and pump	125.
Miller, Briggs, G. & E. manufacturing, 16"	125.
Miller, No. 5 Becker vertical, no rotary	500.
Miller, No. 7 Becker, Lincoln type	125.
Miller, No. 21 Garvin power feed, oil pump	150.
Miller, Hendey, Lincoln type	100.
Miller, No. 12 Brown & Sharpe production type	100.
Miller, Ingersoll slab, 42"x36"x9"	1,000.
Planer, 24x24x8 Fitchburg, 1 head	200.
Planer, 36"x36"x12" Cincinnati with 2 heads	1,200.
Press, No. 30A, Perkins o. b. i. 2" stroke, 1500 lbs.	150.
Press, No. 4, Niagara o. b. i. 2" stroke, 1700 lbs.	200.
Press brake, 10' Ohi power, No. 10 gauge	1,500.
Saw, No. 5 Marvel high speed 6x8	125.
Screw machine, No. 1, B. & O. plain head, 13/16" capacity	225.
Separator, Curtis oil, 1 bushel	275.
Separator, oil, American 1½ bushel	300.
Shaper, 20" Cincinnati, crank, back geared, vise and c/s	550.
Turret lathe, 2½"x10" Milholland, for chuck and bar work	650.
Turret lathe, 34"x36" Acme with chucking equipment	500.
Turret lathe, 24" Steinle, 4" hole, side carriage	300.

USED AND REBUILT MACHINERY

FOR SALE BY

Wachs-Gregg & Co.,

Boring mch., Giddings-Lewis No. 32.
Boring mill, Bullard 60".
Drill, Cincinnati Bickford 3' radial.
Drill, W. E. gang 6" radial.
Drill, Foote-Burt 24" heavy duty.
Drill, Harrington, 61 B, multiple.
Drill, Woodward & Rogers 6-spdl.
Drill, Pratt & Whitney No. 12 mult.
Fox lathe, Warner & Swasey No. 3.
Grinders, Nos. 4 and 6 Badger disc.
Hammer, Mayer 100 lb. upright.

117 N. Jefferson St., Chicago

Lathe, Bradford 32" x 18".
Lathe, Whitcomb-Blaidsell 18" x 8".
Milling machine, Cinn. No. 2 univ.
Milling mch., Rockford No. 6 plain
Planer, Belmer, 48" x 48" x 12", 3 hds.
Press, V. & O., No. 2.
Press, Niagara No. 34 o. b. i.
Screw machine, Foster No. 4.
Shaper, Cincinnati 20".
Turret lathe, Pratt & Whitney 11" x 41".
Turret lathe, Warner & S. No. 2 A.

FOR SALE BY

Reliance Machinery Sales Company

1405 Brighton Road, N. S.

Bolt cutter, 2" Acme, single head.
Boring mill, 36" Niles vert., 2 hds.
Centering mach., Cadillac dbl. end.
Drill, 36" Snyder, slid. hd. (cheap).
Drill, No. 25 Foote-Burt, hvy. cap 3"
Drill, radial, 3" Cin. Bick. a. c., m. d.
Grinder, 12" x 24" Modern pl., self-c.
Hammer, 25 lb. upright (cheap).
Lathe, 16" x 28" Hendey, tie bar, taper.
Lathe, 17"-37" x 8" gap, sliding bed.
Lathe, 24" x 16" New Haven, (cheap).
Miller, No. 2 Cincinnati universal.
Miller, No. 26 Kempsmith univ.
Miller, No. 5 C Becker vertical.
Millers, No. 2 Ohio & Milw. pl. s.p.d.

Pittsburgh, Pa.

Miller, No. 24 Rockford pl., vert. att.
Pipe machines, 2" & 4" Oster, m. d.
Pipe mach., 8" EC & B, be.t (cheap)
Press, trimming, 6" shaft, 6" str. m. d.
Press, No. 21 Bliss o.b.i., 3" stroke.
Press, No. 4 Toledo o.b.i., grd. 34" str.
Planer, 36" x 36" x 8" Cinti., 2 heads.
Riveters, No. 2-A, 3-A Hi-Sp, m.d.
Shaper, 20" Cincinnati, b. g. crank.
Shear, circle, No. 103 Bliss, cap. 14 ga.
Shear, Unishear, cap. 14 ga., m. d.
Screw mach., No. 4 W. & S., bar fd.
Tapper, 6 spdl. Acme cap. 1" nut.
Tapper, Garvin vert. 2 spdl. cap. 1".
Welder, arc, 200 amp. G. E.

FOR SALE BY

A. D. White Machinery Co.,

108 N. Jefferson St., Chicago, Ill.

Automatic, Gridley 4-spindle, 1 1/2" and 2" motor drive.
Automatic, Cleveland 1 1/2" model A, rebuilt. (2).
Bolt cutters, 3 1/2" and 4" Acme, single head, rebuilt.
Drills, 3-spindle Allen and Henry & Wright ball bearing.
Drills, 6-spindle Allen ball bearing, 220 volt 60 cycle motor.
Drills, 26" Barnes back geared, sliding head.
Grinder, 6" x 32" Norton plain cylindrical, very good.
Grinder, 14" x 72" Norton plain cylindrical.
Grinder, Oesterlein tool & cutter, 440 volt, 3 phase, 60 cycle motor.
Hammer, 50 lb. Bradley cushion helve.
Miller, No. 1 1/2 B Kearney & Trecker vertical, with rotary table.
Miller, No. 6 Becker vertical, with rotary table.
Miller, No. 24 Cincinnati automatic, 220 volt, 3 phase, 60 cycle motor.
Miller, No. 4 Cincinnati 36" hydromatic, motor drive, used 5 days.
Planer, Cincinnati 24" x 16" Tu-Speed.
Press brake, 6" Cincinnati, 10 ga. with motors, excellent.
Press brake, 8" Cincinnati, 12 ga. with motors, excellent.
Presses, 7 No. 5 Loshbough-Jordan inclinable, geared.
Presses, 2 No. 90 Toledo double crank, 4" stroke.
Presses, No. 754 Bliss straight side, geared, 5" stroke.
Presses, No. 4264 Hamilton double crank, 8" stroke, with a. c. motor.
Punch and shear, Pels combination No. 10, with built-in copier.
Screw machine, hand, No. 3 & 4 Bardons & Oliver, several of each.
Screw machine, hand, No. 2 Foster, one plain head, other geared, rebuilt.
Also complete outfit for deep drawn sheet metal, with toggle presses, from
10000 lbs. to 34000 lb. in weight, and other machines.

USED AND REBUILT MACHINERY

FOR SALE BY

Strafer Machinery Company.

14th and Provost St.,	BENDING ROLLS.	Jersey City, N. J.
H. & J. 10'6" x $\frac{1}{2}$ " drop end, m. d.	B. S. 17'6" x $\frac{1}{2}$ " drop end, m. d.	
	BORING MILLS	
72" Sellers rapid trav. modern, m.d.	51" N.-B.-P. speed box, s. p. d.	
	GEAR CUTTERS	
No. 6 Cincinnati 72" x 30" m. d.	No. 5A. Lees-Bradner, with motor.	
	PRESSES	
Ferracute 200 ton 82" double crank.	Ferracute S. G. 77, 70" blanking.	
400 ton W. S. hydraulic 73" x 30".	No. 4 $\frac{1}{2}$ Bliss double crank, 32".	
	MISCELLANEOUS.	
Boring bars, portable, 4" x 8".	Hammer, 400 lb. Chambersburg,	
Compressor, I.-R. 8" x 6" horiz. m.d.	steam-air.	
Disc grinder, 30" ball bearing.	Pipe machine, Saunders 6", dies.	
	Squaring shear, Niagara 6" x 10 ga.	

FOR SALE BY

Brownell Machinery Co.,	150 Pine St., Providence, R. I.
	BORING MILLS.
36" Bullard New Era, vertical turret.	No. 2 Binsse horizontal 2 $\frac{1}{2}$ ".
	DRILLS.
3 $\frac{1}{2}$ " American plain radial, s. p. d.	3" American plain radial s. p. d.
3" Cincinnati-Bickford plain radial, s. p. d.	20" Excelsior.
	14" Excelsior.
	GEAR CUTTERS AND GRINDERS.
No. 13 Brown & Sharpe gear cutter, 18x4, spur & bevel.	No. 2 Brown & Sharpe surface.
No. 3 Brown & Sharpe gear cutter, 26x8, spur.	No. 13 B. & S. universal & tool.
	20" Blount wet tool.
11" x 5" South Bend q. c. g.	Grand Rapids twist drill C-2-T.
14" x 6" Hendey, draw-in attachment.	LATHES.
18" x 8" Monarch q. c. g.	24" x 14' Whitcomb-Blaisdell, q. c. g.
18" x 12" Rahn-Larmon.	24" x 27' Fitchburg.
20" x 12" Monarch, taper.	30" x 20" Fitchburg.
	16" x 10' Fay & Scott pattern makers.
	MILLING MACHINES.
No. 3 Cincinnati vertical, m. d.	No. 1 Garvin universal.
Model "AB" Becker vertical.	No. 1 U. S. hand.
No. 13-B. B. & S. manufacturing.	Newton adjust. rail type 20" x 24" x 8'
No. 6 Brown & Sharpe plain.	Ingersoll fixed rail type 24" x 8".
	TURRET LATHES.
No. 4 W. & S. grd. friction hd., 14" x 36" Jones & Lamson flat turret.	No. 0, No. 0-G, No. 2 Brown & Sharpe automatics.
	SHAPERS AND PLANERS.
20" Cincinnati shaper, motor driven.	15" Springfield.
16" Sellew tool room shaper.	20" x 20' x 4' Fitchburg planer.
16" Rockford V-ram, s. p. d.	24" x 24" x 6" Whitcomb planer.
	ROLLING MILLS
5x8 Ruesch.	16x22 Waterbury-Farrel foundry.
10x16 Waterbury-Farrel foundry.	Standard 3-stand Belgian Train 8x10.
	MISCELLANEOUS.
Centering mch., Whiton bench.	Power press, No. 6 Waterbury over-hanging.
Hammer, automatic drop 300 lbs.	Press, 15-tons Standard knuckle joint embossing, 4" stroke.
Standard Machinery.	Screw press, No. 3 Standard heavy hand.
Hammer, jewelers, 900 lbs. M. & P.	Shaft straightener, Rockford 4" to 24"
Hammering mch., No. 2 Langelier.	Slotter, Bement Miles, 12".
Hammer, 80 lbs. Bradley cushioned helve forging.	
Power pr., No. 2 Bliss Consolidated.	WOOD WORKING.
Band saw, 36" Crescent.	Jointer, 12" Oliver ball bearing.
Boring mch., White vert. & hor.	Planer, S. A. Woods 24" x 5 sgl. cyl.

USED AND REBUILT MACHINERY

FOR SALE BY

Brown Machinery Co.

Drills: 24", 26" and 32" Barnes and Rockford; 4-spindle Moline hole hog No. 66D.
Gear hobs, G. & E. 12" and 24".
Grinders: No. 6 Besly dbl. spindle; No. 220 Badger auto. disk; 12x30" Modern, plain s. c. c. s.; No. 12 Brown & Sharpe, universal, tool.
Hammer: 40 lb. Bradley, helve; 50 lb. Mayer upright.
Lathes, 30"x12' Blaisdell; 26"x12' Write for prices: send us your inquiries for shop equipment and sheet metal working machinery. We have the stock.

2333 N. 9th St., St. Louis, Mo.

Putnam, hvy. duty; 20"x12' Lodge & Shipley, q. c. g.; 18"x8' Prentice geared head; 16"x8' Lodge & Shipley q. c. g.; 16"x6' Monarch. Millers: No. 2 Hendey-Norton.univ.; No. 34 Fox; No. 4 Hendey Lincoln. Press, No. 7 Zeh & Hahmeyer. Punch, Cleveland C in 1"; Rock River Style L 1" in 1".
Threaders: 4" Geometric; National 18" double head.

FOR SALE BY

Bennett Machinery Co.

Automatics, Nos. 53 & 55 Nat. Acme. Automatic, No. 24 New Britain. Bolt cutter, 28" Acme, 2 heads. Bor. mills, 30" Rogers, 48" Colburn. Brake, 8"x16" Robinson m. d. Gear cutter, 60" Brown & Sharpe. Gear hobs, 18H & 24H G. & E. Grinder, No. 2 Landis, universal. Hammer, 300 lbs. Beaudry. Keyseater, No. 2 Catlin; No. 0 M&M Lathe, 84"x10" Putnam geared hd. Lathe, 45"x45' Pond, geared head. Lathe, 42"x24" Niles, cone. Lathe, 27/30"x16" Reed-Prentice. Lathe, 26"x12" Greaves-Klusman. Lathe, 20"x10" Reed-Prentice. Lathe, 18/20"x8" L. & S. select. hd.

30 Church St., New York City

Lathe, 16/18"x18' L. & S. cone head. Lathe, 18"x6" Rahn-Larmon, t. a. Lathe, 16"x6" & 14"x6" Hendeys. Miller, No. 33 Kempsmith prod. Miller, No. 4 Hendey, grd. head. Miller, No. 3B Milwaukee, vert. att. Miller, No. 3 Cincinnati, cone. Miller, No. 14 Garvin, vertical. Miller, No. 2 Knight vertical. Pipe mch's, 8" Saunders, 8" Jarecki. Planer, 24"x24"x6" Woodward m. d. Radial drill, 3' and 3' Muellers. Shapers, 28", 20" and 16" S. & M. Turret lathes, No. 4 Warner & S. universal both bar and chucking, equal to new. Turret lathes, Nos. 1B, 2B Fosters.

FOR SALE BY

Randle Machinery Co.

Air compressors, all sizes and types. Arbor press, Nos. 2 and 4 Greenerd. Beading machine, Quickwork univ. Beading mch'e., No. 624, Pexto, m.d. Bending rolls, 8"x14 ga. Bending rolls, all sizes & types. Bolt cutter, 14" Landis. Boring mills, 34" to 14". Brake, No. 818 & No. 814 D. & K. hand power. Brake, 10"x10" ga D. & K., leaf, m.d. Brake, 8' & 10"x10 ga. Ohl. Brake, 10"x3/16" D. & K. press, m.d. Drills, all sizes and types. Grinder, No. 14-20" Gardner. Grinder, No. 24-33" Gardner. Keyseaters, No. 8 Catlin & Davis. Lathe, 11"x3" Monarch Jr. cone dr. Lathe, 18"x4" Sebastian, m. d. Lathe, 16"x8" Sebastian, m. d. Lathe, 24"x12" Cisco geared head. Lathe, 26"x12" Wickes semi q. c. Lathe, 42"x45" Putnam.

Also many other bargains.

1733 Powers St., Cincinnati, Ohio

Lathe, 93"x28" Johnson. Milling mch'e. No. 0 Steptoe b. g. pl. Milling machine, No. 2 LeBlond universal motor drive. Pipe bender, No. 5 B Wallace. Pipe bender, Smith & Pedrick. Pipe machine, 3" & 6" Landis. Press, No. 5 Bliss d. c. Press, No. C-2 Ferracute. Press, No. 91B Toledo d. c. Press, No. 3 Amer. openback, m. d. Saw, 6x6 Excelsior (new) \$67. Shapers all sizes and type. Shear, No. 848, No. 662 Niagara. Shear, 10"x12 ga. Bertsch. Shear, 10"x14 ga. Stoll, m. d. Shear, 10"x3/16" Long & A., m.d. Shear, No. 6 L. & A. universal. Shear, Southwark rotary, 8 ga. Shear, No. 38 Marshalltown m. d. Welders, 100 to 300 amps., arc. Wheel press, 100 to 300 tons. Wheel press, 150 ton Caldwell, \$400. Send us your inquiries.

USED AND REBUILT MACHINERY

FOR SALE BY

The O'Brien Machinery Co.,

Automatic, No. 00 B & S high speed.
Bending roll, 11' drop end, $\frac{3}{4}$ " cap.
Bending roll, 28" H & J, $\frac{3}{4}$ " cap.
Columbus facer, 14" Espen-Lucas.
Crane, electric travel, 15 ton a. c.
Drill, 4" Cincinnati-Bickford, radial.
Hammer, 2000 lbs. Chambersburg.
Hammer, 1100 lb. N.-B.-P. sgl. fr.

113 N. Third St., Philadelphia, Pa.

Lathe, 36"-50"x32' McCabe, belt.
Miller, No. 3B Brown & S plain.
Planer, 30"x30"x6' Detrich & H.
Punch, 30" beam cap. 2-1" x 1".
Punch and shear, 24" Southwark,
arch. jaw, cap. $\frac{1}{2}$ " x $\frac{1}{2}$ ".
Shear, 8' Covington squaring, gap
pattern, $\frac{1}{2}$ " capacity.

FOR SALE BY

Miles Machinery Co.,

18" & 24" Gould & Eberhardt.
Nos. 3 & 12 Barber.
14", No. 5A Lees-Bradner.
 $\frac{1}{2}$ ", No. 0 Mitts & Merrill.
1", No. 0 Baker.
12"x8" Hendey.
14"x6" Le Blond.
16"x6" Monarch.
16"x8" Springfield.

Saginaw, W. S., Mich.

GEAR CUTTERS

16"x12" Cincinnati.
26", No. 6 Fellows.
64"x20" Gould & Eberhardt.

KEYSEATERS

18", No. 2 Mitts & Merrill.
24", No. 4 Mitts & Merrill.

LATHES

18"x8" Whitcomb-Blaisdell.
20"x8" Lodge & Shipley.
19"x16" Sidney.
26"x14" Putnam.

SHAPERS

16" Kelly.
18" Sterling.
20" American.
28" Columbia.

FOR SALE BY

Herman L. Winterer,

947-953 N. Front St., Philadelphia, Pa.

Boring mill, Bement-Miles horiz. $\frac{4}{5}$ " bar with revolving table.....	\$1700.
Boring mill, 60" Niles car wheel	200.
Boring lathes, (2), Johnson journal bearing boring type	each. 100.
Drill press, 48" Almond, sensitive radial, post type.....	100.
Drill press, 24" Foote-Burt, heavy duty.....	240.
Drill press, 24" Snyder, sliding head.....	125.
Drill press, 28" Aurora, b. g. sliding head.....	225.
Lathe, 37"x14" Johnson, d. b. g., q. c. g., taper attachment.....	1000.
Lathe, 32"x12" Pittsburgh, heavy duty, d. b. g., q. c. g.....	850.
Lathe, 27"x12" Bullard, d. b. g., q. c. g.....	400.
Lathe, 26"x11" Wickes, d. b. g., q. c. g.....	400.
Lathe, 28"x10" Niles, d. b. g., q. c. g.....	350.
Lathe, 18"x10" Reed, p. c. g.....	160.
Lathe, 16"x8" Hendey, p. c. g.....	175.
Milling machine, No. 8 Becker, universal with vertical attachment.....	550.
Milling machine, No. 18 Garvin	225.
Moulding machines, (7) Tabor 14"x21"-13" cylinder.....	each 100.
Planer, 48"x48"x12' Gray, 2 heads.....	1000.
Presses, Waterbury-Farrel d. a. 2 $\frac{1}{2}$ "-5" stroke, wt. 20000 lb., new (3), ea.	800.
Punch presses, (15) all sizes.	
Pumps, steam and belt.	
Riveter, air, 6' gap Allen, capacity 1 $\frac{1}{2}$ " rivets.....	325.
Riveter, air, 6' gap Allen, capacity $\frac{1}{2}$ " rivets.....	175.
Shaper, 16" Smith & Mills, with vise.....	175.
Turret lathe, 3x36" Pratt & Whitney, hollow hex., d. b. g., q. c. g	600.
Turret lathe, 3 $\frac{1}{2}$ x28" Pond, triangular pattern	500.

Many Additional Tools.

Send for complete catalog with liquidation price list.

"Restored" Machines

BORING MILLS

- 1-16" N.-B.-Pond Extra Heavy.
- 1-12" Niles Vertical.
- 1-10-16" Niles Extension.
- 1-100" N-B-Pond Vertical.
- 1-96" Betts Vertical.
- 1-84" Betts Vert. Boring Mill.
- 1-72" N.-B.-P. Vertical.
- 1-72" Sellers Vertical.
- 1-72" King Vert. Boring Mill.
- 1-62" N-B-Pond Vertical.
- 1-52" Gisholt Vertical.
- 2-48" Colburn Vertical.
- 2-44" N.-B.-Pond Vertical.
- 1-24" Bullard Vertical.
- 1-34" Bar Niles Horizontal.
- 1-45" Bar N-B-Pond Horizontal.
- 1-72" N.-B.-P. Duplex Horiz.
- 1-No. 3 Barrett Cylinder.

DRILLS (Radial)

- 1-3' American Plain.
- 1-4' Cincinnati-Bickford Plain.
- 1-6' Fosdick Plain.
- 1-6' Cinti.-Bick. Plain.mtr.on arm
- 1-7' Dreses Plain.
- 1-8' American Triple Purp. Plain.
- 1-6' American Universal.
- 1-8' Dreses Universal.

DRILLS (Multiple Spindle)

- 3-Moline Nos. 11-D, 8-D, 2-D.
- 4-Bausch Nos. 2, 3, 4.
- 6-Natco Nos. 12, 13, 14, 15, 37.

DRILLS (Upright)

- 6-Aurora 22, 24, 28, 30".
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- 1-Sellers No. 1 Drill.
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- 4-B. & Sharpe Nos. 13, 3, 5.
- 2-Newark No. 2-B.
- 3-G. & K. Nos. 18-H, 12-H.
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S. & B. dbl. spdl. 24-42"x14' bed.
42"x24' American Grd. Hd., M. D.

MILLERS

Standard No. 4½, table 6½"x24".
1—No. 4 Becker vertical, belt dr.
Brown & Sharpe No. 4 Universal.

PUNCHES AND SHEARS

Long & A. S. E. 20" throat pl. jaw.
Wais & Roos 15" thrt., 4"x3".
No. 5 H. & J. Beam, cap. 30" beam

Cleve. "EF" 36" throat, 1½"x1".
Beatty 48" throat, 1½"x1".
Industrial double end, 8"x8".
Lennox rotary bevel shr., 4½" cap.
Canton belted M. D. 24" capacity.

PRESSES

No. 3 Bliss "Stiles" auto. roll fd.
No. 6' Bliss agl. gd. dbl. cr. s.s. forg.
V. & O. Nos. 3 & 1-O. B. I.
Rockford No. 3 O. B. I.
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8' Keene Brake, hand or foot 16 ga.
Caldwell 300 ton Hydraulic Wheel.

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16" Gould & E., 32" Shapers.
Gould & Eberhardt 24" B. G.

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D & H. Opens. Planer 42"x42"x10".
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- No. 1 Wilmarth & Morman Universal.
- No. 3 Wilmarth & Morman Surface.

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SHAPERS

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16" Ohio back geared, crank.

20" Smith & Mills, back grd. crank.
25" Smith & Mills, back grd. crank.

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No. 3 Niagara o. b. i., (2).

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 TOTAL to Buyers of Known Responsibility..	21,877
*Concerns quoted in Dun or Bradstreet, but without Capital Rating.....	2,116
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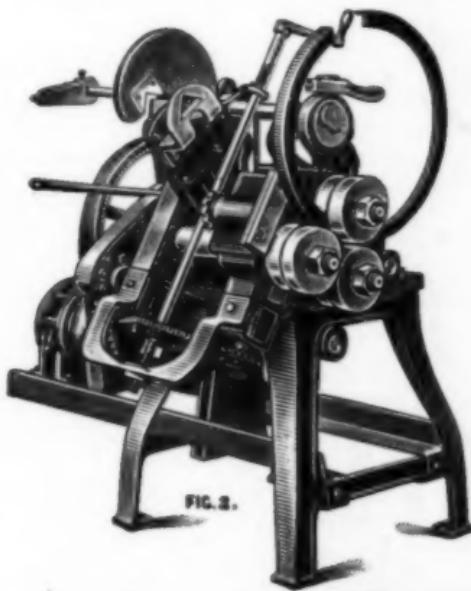
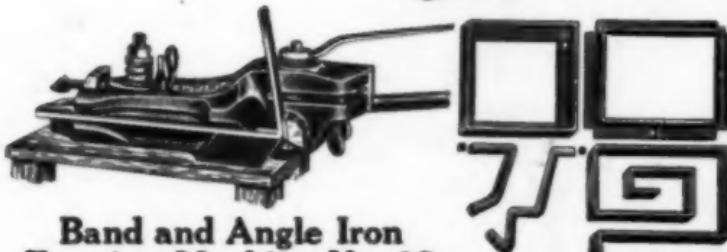


FIG. 2.



Band and Angle Iron
Forming Machine No. 13

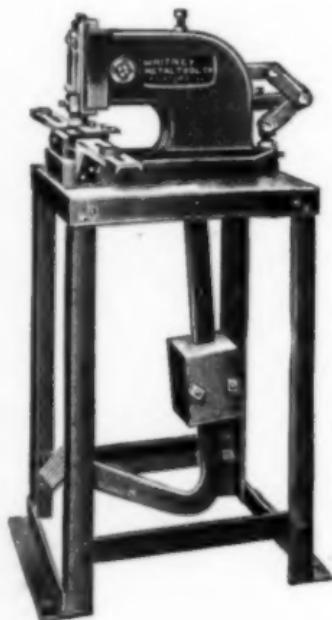
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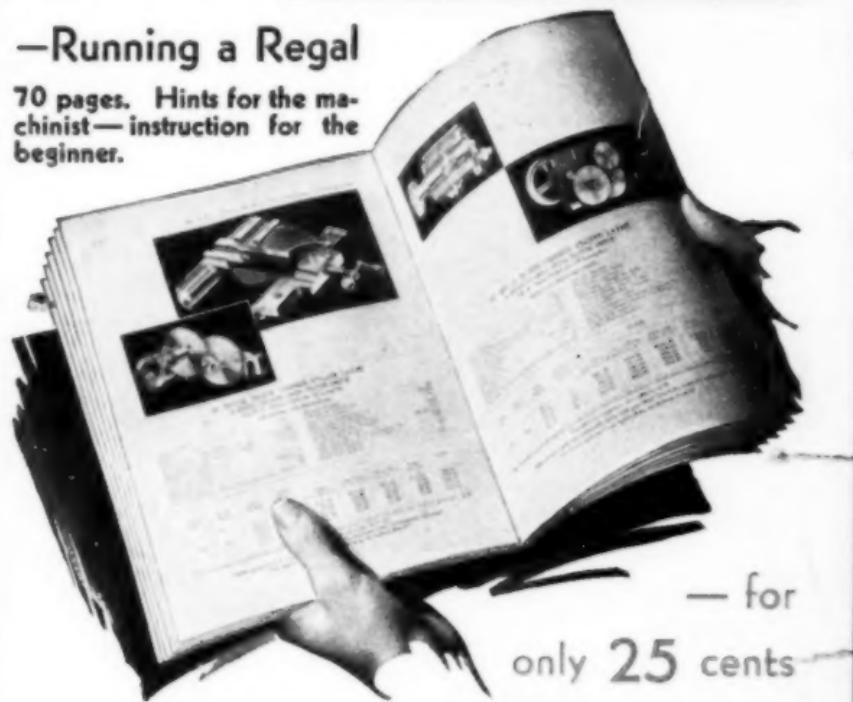
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